Volume 2 Number 6 November 1986
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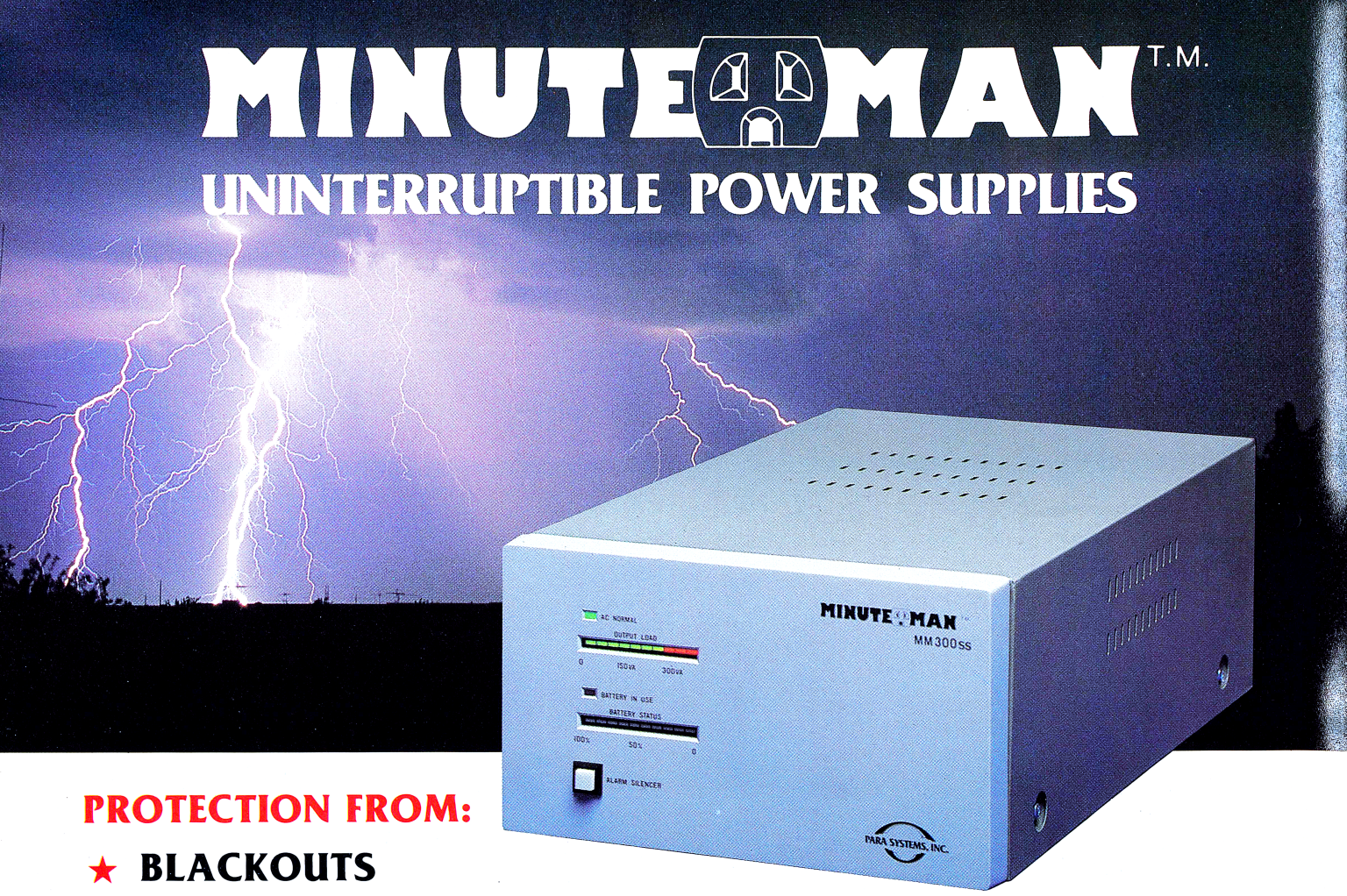

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Boy, have we got a deal for you! We are celebrating Christmas this year by making you an offer you can't refuse! Any three of the following disks (including our MS-DOS selection) for an incredible $30 dollars!

These disks are fountains of knowledge, practical uses and entertainment. Why suffer mental torment any longer? Make your selections, fill out the order form and blast it to us. We'll blast your disks back to you, and you'll soon be having a blast of your own! Act right away for delivery before December 25. Santa isn't going to get you this stuff by himself, you know. Check out these bargains: three for $30, or ala carte, $15 each.

CHRISTMAS SING-A-LONG (CP/M-TPM) - Gather your family and friends around your QX computer for an old-fashioned caroling session. Written by Terry Ritter, your computer comes to life humming Christmas songs while you sing the words displayed on the screen.

LEARNING MBASIC (Text Files) - You might as well admit that next year you are going to learn a little about BASIC programming, a beginning first step to software enlightenment. This disk contains articles published in newsletters scattered across the nation. You'll find information and insights virtually unobtainable from any other concentrated source. Make the break! Start your programming experience with this disk today!

FUN AND GAMES (CPM and TPM) - **SUPER** is too modest a term for this disk. You'll find lively arcade action coming to life on the screen of your QX computer. Pac Man, Space Invaders, Chess and even Star Trek, the game for which caused computers to be invented, are all here among many others. If you have a doubting honey, show him or her the game of **MOUSE**. It runs with graphics from TPM II and is guaranteed to make a computer game junkie out of anyone.

FORM LETTERS (Text Files) - Ever want to tell that freeloading brother-in-law of yours to move out of your house but could never find just the right words for it? This disk has about a hundred form letters on virtually every subject already written for you to doctor up with your own details and pop in the mail. All files are in PLAIN JANE ASCII, so any word processor (including Valdocs) can munch them up and print them out.

EGRAFPAC (Works Best in CP/M) - After you're finished with the Language Lab this month and have learned everything there is to know about MBASIC from our Learning MBASIC disk above, you're ready for this beauty. This has all the fancy graphics routines that plot circles, boxes, spirals and other condiments through direct control of the 7220 chip inside your QX computer. Not for the average civilian, this disk is a must for any serious programmer who now doubts that BASIC is the best language ever written.

MS-DOS Disk of The Month

This month we offer seven archived files from the MS-DOS realm. Take a quick look at this disk, then place your order fast!

FLICKER.ARC - A command file processor for graphics presentation. Create a series of pictures and sounds for entertainment or business presentations.

FSTFRM.ARC - Quickly format floppy disks, two disks at a time.

G-WHIZ.ARC - A file manager similar to WASH with built-in help from the function keys. Rename, copy, erase, etc.

GALAXY.ARC - An editor written in Turbo-Pascal.

GETDIR.ARC - A memory resident utility. Access any directory from inside an application program.

HD.ARC - Check out your hard disk. Measure speed and other parameters.

Notice to All

It is true we promised a complete Disk of the Month catalog for this month, but the simple fact of the matter is, we ran out of space.

So until we can find the room for it, please refer to your 1986 Epson Connection Resource Guide and previous issues of Epson World. We can supply EC-1 through EC-17 and most other selections you've seen listed elsewhere.

If you don't see it, ask for it! We are well connected and can probably find what you're looking for.

YES! Without a moment's delay, send me copies of the November '86 EW Disks of the Month as indicated at $15 each or any three for $30 post paid poste haste!

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Epson World Disks of the Month contain public domain, freeware and shareware software. Your payment covers media, packaging, production overhead, postage and handling. Orders are normally shipped within 5 working days after receipt of your check or plastic.

Epson World

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The End is Near...

I know what many of you are thinking that I'm thinking, and you may be right, but to remove any doubts, right now, before you read another sentence, flip to the cover wrap and check the date in the top-right corner on your mailing label. If that date is already history and we don't get your renewal before December 19, your Christmas goose is as good as cooked because you won't be getting the next issue when everybody else does. No more free magazines.

In the four months that we've been publishing EW, every issue has left the printers on schedule packed to the gunwales with practical, easy to digest information. No more dead pages filled with glitzy, non-essential fluff. Just solid, juicy, meaty articles of interest to you, the Epson computer owner, only slightly tinged around the edges with my personal brand of humor with no editors chopping it out.

Our columnists, authors, Pat and I have put in a lot of hard work to make darn sure that the New Epson World is worth every penny you're asked to pay for it and that it arrives in a timely fashion. We publish every issue at the end of the month because that is the schedule dictated by circumstances when we took over the magazine.

We started out in August with little more than a mailing list from two bankrupted (and that is just what they were, incidentally) magazines, around 13,000 very unhappy readers who have been ripped off any number of ways, and a 30 day line of credit from our printer.

We sent out the last of the Camden-prepared issues in August with a cover wrap requesting renewals. Your response has been nothing less than fantastic, and that response is what has made Epson World succeed. Renewals have exceeded our wildest expectations. Letters with useful tips, suggestions and questions arrive daily along with an increasing flow of good manuscripts. Right now our production may be a little rough around the edges here and there, but I think you'll admit Epson World is getting better every issue, and by now it's safe to say we have a proven track record.

If you agree, and your subscription has expired, then send in your renewal today. Until now we've been sending issues to everyone whose subscription expired May of this year or later, just so you could see what we are doing. But no more. If your renewal arrives after December 19, you're going to miss the next issue. And it costs a buck in postage alone to have it mailed late.

Epson, RSI and half the rest of the entire civilized world may be going down the tubes, but you know what? We'll still be here, telling it like it is, and caring. Whenever you need us. Our only commitment is to serve you, a practicing member of the Epson community, a terrific bunch of people.

Enjoy this issue of EW, enjoy your family, enjoy and celebrate life this holiday season. Best wishes everyone!

Jim & Pat

Jim and Pat Hansen
Publishers

The Mail Bag

This month we received a number of comments on the Septemeber issue and a continuing complaints about RSI support and service. We invite you to write with your observations as well.

My second and hopefully not last issue of Epson World just arrived. Not bad...I'd like to use the rest of this letter to rid myself of frustration with Rising Star.

Rising Star has fallen. I received a letter saying so. The only thing RSI can do is write letters since they can't deliver software, hardware or make refunds. I ordered Valdocs + in February '86 and have not received anything but letters, the last saying they filed Chapter 11 and that they mailed my software a third time (I have not received anything yet), that my mouse is a long lost item as stated in their first letter in February and I would not receive any money for the mouse and non-existent software.

I always held hope for Valdocs and RSI but after being out $450 with nothing but long distance phone bills and copies of certified letters to show for it, I have nothing but bitterness for RSI and Chris Rutkowski who has lied, cheated and stolen from me. If I paid for my software and they go broke, can I now legally ask someone to send me copies without copyright infringement, or is theft only legal for RSI?

I am pushing HELP one last time. Since I am stationed overseas there is no local help or support. Are there any readers or user groups stateside who can help me? I'd like to subscribe to some user group newsletters, but don't have any addresses.

MSgt Randy Shircel
PSC Box 595
APO NY 09011

How about it gang? Here's a guy stationed overseas with no local, and it would appear he's been pretty well shafted. Perhaps some user groups could send him a sample newsletter or two; concerned and interested individuals can offer direct support through Randy's APO address. Show him you care. Terry White, also in Germany, reports finding no Epson support or service in Heidelburg, Frankfurt or Mannheim. If anyone can help, please drop us a line so we can print it.

I've enjoyed your articles on Epson computers and wonder if you can help me. It seems inevitable that one of these days, much as I love the Valdocs system, I'm going to have to learn MSDOS. (I still haven't learned CPM since Valdocs has been able to do everything I've wanted so far.)

I've been thinking about picking up a QX-16 since I'd like to continue using Valdocs even if I do get into MSDOS. Do you have a list of programs that absolutely WON'T run on the 16? Also, have you any hints that would stop my Legend 1080 (FX-80 compatible) printer from spewing out paper when I boot Valdocs + ?

Ira L. Joachim
1610 Swamp Road
Furlong, PA 18925

The paper spewing problem is common in printers that can't take the graphic character download from Valdocs. It would appear that your Legend 1080 is "almost" Epson compatible. What I'd do is hang on to the paper knob when booting the printer or select the "other" printer if that got too boring. Next thing would be to see if any of our readers has a better idea; drop Ira and us a note if you have a more elegant solution.

I know of no listing of programs that absolutely do not work on the QX-16, although you might get in touch with International Trading, an advertiser in EW. They are currently the best known source of info in the QX-16 and have a genuine interest whether or not you bought from them.

I agree with Henry Sivers in the June issue requesting more tutorial level articles. Probably most QX-10 users have still not mastered all the Valdocs modules or the CPM operating system, and feel uncomfortable trying to read magazines written by hackers for hackers.

Before abandoning Valdocs for the Equity and MS-DOS world, how about an in-depth tutorial for each V + III module and a series of advancing depth on CPM, TPM and MBASIC use.

I'll bet many people don't know how to successfully boot up and use a Disk-of-the Month. I'd also like to see detailed articles on how to set up a modem and how to manipulate library files from a bulletin board and a clearly illustrated article on

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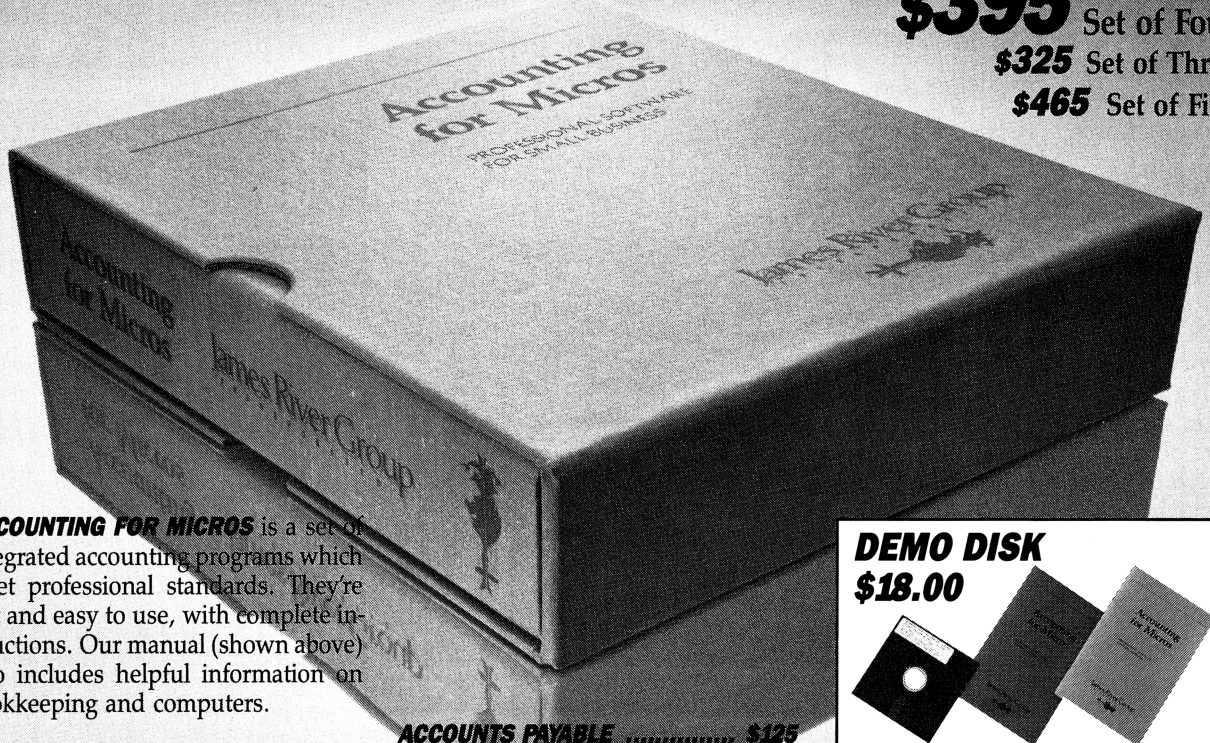

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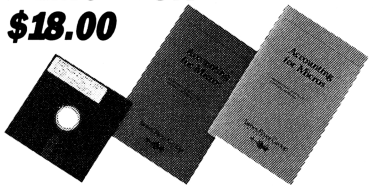

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how to take apart a QX computer and remove the fan screen.

Steve Karpman
San Francisco

One thing you folks won't see in Epson World is the V3 tutorial suggested by Steve. If Rising Star couldn't do it in 840 pages (the equivalent of over 21 issues of Epson World), there's little hope we can. However, you'll see just about everything else he has suggested, and more! We like letters like this and hope you'll let us know what interests you.

My system is down from a lightning strike. You might be interested in the following estimates for repairs obtained from a local authorized Epson repair center. The repair center says that the Epson distributor no longer repairs QX-10's:

Disk Drive $180 + $75 labor
Mother Board $386
Power Supply $125
NiCad Battery $35

It is interesting to note that I have seen QX-10 mother boards with the video controller on sale for as little as $169. At a repair cost of $682, I am in the process of deciding whether to repair it or spring for an MS-DOS clone.

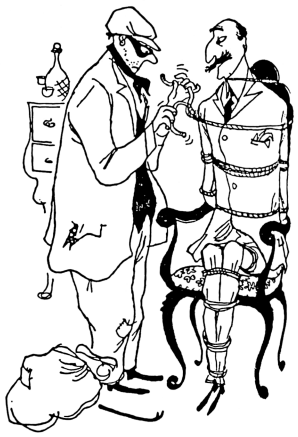
Mike Dilbeck
Marietta, GA

Before spending your own money, be sure to check your household insurance which generally covers lightning damage after your deductible. You should also thoroughly check every electrical appliance in the house; if your computer bit the dust, then it is likely something else did as well.

I have a friend who thought his computer was the only thing hit, but then found his microwave oven display had a few LED segments blown (worked ok otherwise), his stereo didn't work in phonograph mode, the remote (over the phone) control of his phone answering machine didn't work, a clock was dead and a few other things like this. If he hadn't carefully checked everything, his insurance company would have paid only for the computer, leaving him with half functional equipment and repair bills of close to $1000.

One way out might be to repair the computer yourself by simply buying another used QX-10. The clone solution is good but you are then faced with virtually complete replacement of your entire software library. Plus you have to learn how to use the new software and operating system. Unless you are already a "heavy" it will take you months before your productivity is back up to where it is now.

And speaking from personal experience, you aren't going to like ANY computer of the MSDOS ilk (regardless of cost or horsepower) as much as your QX-10. Face it Mike, we're driving 1935 Rolls Royces. New Chevies or Pontiacs may go faster, but they don't have the class.



Immortal Caption Contest!
Come up with the best caption and win a free Disk of the Month! Send your entries to Epson World's Immortal Caption Contest, Box 369, New Boston, NH, 03070.

I'd like to comment on Peggy Garrison's letter printed on page 42 in the August EW. Don't hold your breath, Peggy. I went for the whole package ($795 for the 2 meg SemiDisk, $400 for Val), paid by my Visa card last December. The SemiDisk was returned when I couldn't make it work; I never got my mouse.

Since then I have received three letters from Chris Cummings advising that credit or a check would be forthcoming right away. My bank advises that they cannot take action after 60 days. I have written the Post Office who has managed to get Chris to respond, but still no refund.

I am having bumper stickers printed that say "IF RISING STAR OWES YOU HONK". The first run is sold out.

J. T. Volger
4417 Barwick Rd.
Charlotte, NC 28222

John, your problem is not isolated. We at EW wouldn't mind having one of your stickers. After having been taken for nearly $800 you've managed to keep your sense of humor pretty well. Chris Cummings' comment to John's problems and this letter: "Very funny."

After nearly a month I've finally gotten my Val + III from ValWare. The wait was worth it, and it will take me months to learn everything. Here are a few questions that you or other readers may be able to help me with.

Since RSI is out of business, how do we get manuals or other RSI products such as RSIBASIC? ValWare says they won't be selling these products in the future. Where do we get parts and service? Perhaps you could run a few articles on QX maintenance in the future. How about the color board? Is there a way to get it to display in anything but green? I've used the new spell checker, but RSI didn't include a word counter. Is there a way to check this?

Duncan Parsons
Mt. Sidney, VA

There is still a limited demand for some of RSI's less popular products, but unlike the QX computers, no "fire sale" on discontinued items can be expected. Unless someone is willing to pay RSI money for the rights to them, they are likely to vanish in the night except for pirated copies. RSIBASIC is a very capable language, offering ex-

cellent graphics, color and sound support for the QX computers. Check with your user groups; perhaps there you can find a used copy somebody will part with. (Make sure you get the original disk and manual!) We'll be addressing the matter of computer maintenance in future issues, so stay tuned!

I am 60 years old, self employed and have been using my QX-10 for almost 3 years. I am a real estate appraiser and use my equipment daily. I use VALDOCS and several real estate appraisal programs. However, when I try to do other things, it is extremely difficult. For example, I bought the "Home Accountant" and finally gave up trying to master it after 30 hours of effort. It seemed easier to use pencil and pad as I have done for so many years.

I'm not crying on your shoulder, just honestly trying to show you how slow many of us are and asking you to have information and articles of a basic level for my type reader, as well as the advanced reader.

Harry Blaylock
Leawood, KS

One of the problems many of us have is lack of companionship, someone local that can talk about our problems. There is not a single one of us that has not experienced Harry's problem, your editor included. It takes letters like this to remind us that everyone doesn't know everything we do. By the way, Harry, you should try Nickelodeon's Home Money Manager. Bet you won't have ANY trouble with it...works almost like Valdocs.

I have a strong interest in outline processing and calendar programs since Valdocs lacks the former and SCHED doesn't do what I need from a calendar program. Epson World should promote the initiative in writing QX programs by providing programming tips and technical info to aid that process. How about a programmers column? September's sprite article is a step in the right direction, although I don't want to write games. Personally, I'd love to learn how to light the keyboard LEDs.

David P. Lemire
Columbia, MD

EW is firmly behind Dave's concept, but unfortunately the majority of our readers are users, not programmers. We will continue the Language Lab, our "hackers haven", for the purposes just suggested. We're all for anyone willing to learn and work towards developing new programs, concepts and applications. If you have a new widget, send us a story; if readers like it, you'll get orders for your disk. If not, consider the fame and glory of being published in Epson World. The door is open. Walk in.

I want to congratulate you on your September issue. It's full of interesting articles and is good looking besides!

Ed Ayres
Cambridge, MA

Thanks for the note, Ed. Stop over for a visit sometime. The bar opens at 5 pm.

Thanks for the EW-4 CPM Disk of the Month. I have enjoyed playing with the programs on the disk. I've had trouble with CALC.SYS which appears to load, display the sign-on, then hang. By the way, TPM users should avoid NULU Version 1.51 where it will cause all sorts of merry hell; it is meant for CP/M where the new extensions are well worth the effort to obtain it. The RBBS listing was particularly useful and information in it helped explain some surprises I've had trying to reach boards now closed.

Finally, at risk of being churlish toward the considerable investment of considerable work on the part of the author, how about a tutorial on hard disk installation. The information generally provided is so badly written that its usefulness is compromised. Regarding RAM disks (SemiDisks), users might like to know that it is important to run QTEST under TPM, then run SETSEMI in V+III.

Leslie Clark
Edgewater, NJ

Glad you enjoyed EW-4, Leslie, which you won last month because you read every word in Epson World. The problems you have with CALC.SYS are the result of CPL programming. Turns out that CPL (and presumably DEFKEY) reprogram the function keys way down deep inside the system, screwing up programs that depend on normal operation of the reprogrammed keys. RSI didn't document this information. CALC.SYS works fine if you haven't reprogrammed those function keys used by it, but if you have, simply type them with the SHIFT key and all will be well.

I agree with your observation about hard disk installation. I've had extreme trouble myself. We'll see what we can do about a hard disk tutorial. It seems like hard disk people speak a language of their own, apart even from programmers.

I've just finished reading the September issue of the new Epson World. It has sold me on a new subscription. The issue was so useful that I do not expect to find another as good for about another year. The pitch, the degree of computer experience, the technical capability assumed on your part all seem to hit it on the head. The September issue bodes well for the Epson World future as far as I'm concerned. You're right in your pricing as advertised on the cover. It IS cheap for what I got.

Edward Miller
Welch, MN

The preceding was not a paid political announcement. Let me just say that the success of Epson World magazine rests in YOUR hands, not mine. Sure, Pat and I produce the magazine and lend a certain sultry disposition to it, but you, the readers, authors, programmers and users, by contributing letters, stories and tips make EW what it is. Remember that the support you'll get in the future, either through Epson World or elsewhere, is largely going to depend on what you're willing to contribute. EW

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is just a simple focal point for this exchange. Keep those cards, letters and stories coming in, folks. We'll all profit from them.

Hi folks. Does this cover mean I'm about to expire? I own an HX-20 and as yet I've seen no articles about or for my baby, darn few mentions of it in passing and no advertising for hardware. How come?

Michael Bucove
Ketchican, AK

I hope our cover has nothing to do with you expiring! Our cover wrap protects your magazine and lets us remind you to renew your subscription at the same time. Everyone gets it. Just check the upper right corner of your mailing label. That's when your subscription expires. Of course we are of the opinion that life without an Epson World subscription isn't worth it and you might as well expire if you don't renew!

The reason you don't see much about the HX-20 (a fine portable in my opinion) and the PX-8 is that people who have them keep all their secrets to themselves. Further, software specifically written for these two systems is generally special purpose custom stuff not made for general sales. Check this issue for a good story on the HX-20. Remember this: The support you get is what you give. (An old refrain by some 20th century editor.) --- jmh

Tech Note....

You might want to copy the following list down and tack it somewhere handy. Val+III has seven HELP files, each normally on the appropriate system disk. When when customizing a system disk you may loose track of what help files belong to what system. Here they are:

HELP0.HLP - General Info & Edit
HELP1.HLP - Load and Scheduler
HELP2.HLP - Spellchecker
HELP3.HLP - Mail
HELP4.HLP - Cardfile
HELP5.HLP - Valdraw and Valpaint
HELP6.HLP - Utilities

HANDS ON EXPERIENCE WITH PARA SYSTEMS MM300SS UPS

By Anthony Joseph

Last year I lost my QX-10 power supply during a thunderstorm even though I had a small ($15.00) surge protector hooked in line. Whether or not it was because of a lightning-induced voltage spike or an overload, the coincidence was there. It cost $160 at the authorized Epson repair center to fix the computer.

That was a direct, out of my pocket expense. My homeowner's insurance didn't cover it because of the deductible. I was lucky because none of my data was destroyed. You can imagine the time you'd spend recovering large spreadsheets, accounting programs, and documents if your backup procedures are anything like mine. Just imagine spending up to 6 or 7 hours inputing data and watching it go *POOF!* when the power goes out just as it is stored. Unless you save your work frequently, you're taking a chance on having to do it all over again. (That's also happened to me.)

As your system gets larger, the potential risk for hardware damage and data loss becomes larger whenever power drops. Depending on the make and model, an uninterruptible power supply (UPS systems) can prevent most power line "glitches" and loss of data caused by sudden power interruptions. I was told about this when I bought my QX-10, but after spending over $3000 at the time, I didn't have any more to spend. (They cost $400-1000 then, and still more today.)

UPS Systems

UPS. What is it? These are little black or grey boxes that give your computer a few minutes of emergency power from internal batteries whenever your electricity goes out. This allows important files to be saved and the system shut down in an orderly fashion. A

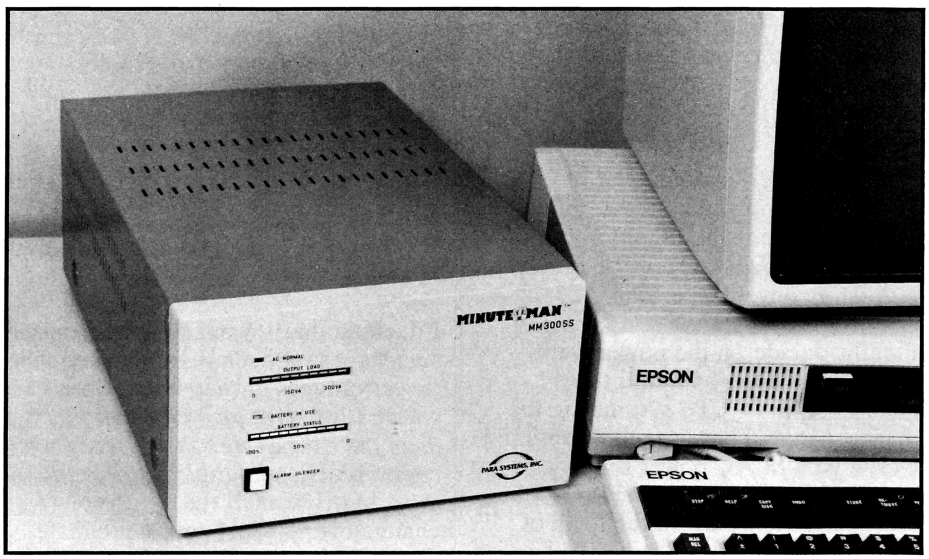

Photo 1 - Para Systems UPS system Model MM300SS. It's a good-sized box.

UPS system normally just plugs into the wall; your computer plugs into the power outlets on the UPS unit itself. Typical UPS systems also protect your equipment from brownouts, surges, and power line spikes.

You'll find several kinds of UPS systems and power line conditioners on the market today, but they're not exactly the same:

Intelligent UPS equipment automatically shuts down your equipment in a controlled manner after a power failure by a set of stored commands. These systems are not meant to keep your system up for any appreciable length of time after a power failure.

UPS systems provide conditioned (filtered for line transients and power line glitches) power in a nearly continuous manner, automatically switching between line power and battery backup power whenever necessary. Because the UPS backup battery is continually charged, it is always ready to take over whenever a power outage takes place.

Backup or Standby Power Systems replace line power by using some sort of switch whenever a blackout occurs. The switching time is generally 4ms or longer. These systems don't usually protect equipment against power dips, surges or power line spikes, and generate a healthy power surge of their own during the changeover.

Power line conditioners protect against spikes, dips and surges by filtering and regulating the power to your equipment. These protect your equipment from "dirty" power and sometimes lightning, but provide no backup power of their own.

Shopping for a UPS

UPS systems aren't cheap, and if you're trying to learn from the advertisements, you'll have a tough job of it. Here are a few pointers I picked up while shopping for my UPS system.

Before starting out, check your system to see how much power you actually need. The nameplates on the back of

your computer, printer and other peripherals usually give a wattage rating. A typical computer will draw about 120 watts. Printers draw anywhere from about 80 watts for an FX-80 to over 800 for a laser printer. If your monitor has a separate power cord, be sure you add that to the list.

Next, determine the next standard size UPS system available up from the power requirements you have just determined. Generally manufacturers make them in sizes starting at 250 watts and upward. Prices rise dramatically as the power capacity increases, so you may want to go back and see if you really needed to power everything on your list. You might want to leave your printer off the UPS system if you're near the limit. Should power fail all that you'll loose is the printout, a slight inconvenience.

Finally, decide on the power wave form you need. You'll find three general types of UPS systems on the market today. These are differentiated by the type of AC power they produce. The least expensive UPS system produces power in the form of square waves, and is often called an inverter. Next up the ladder are those producing stepped sine waves and the most expensive produce pure sine waves.

Square wave or Inverter backup systems may prove satisfactory if you're running non-inductive loads, that is, no motors or transformers are used in the equipment powered by the UPS system. These systems are the least expensive and most efficient, requiring less battery power for similar power durations. The biggest disadvantage of these systems is that the switching time is much longer than other systems and they are generally not synchronized with the power main, producing large transients whenever a power drop out takes place. Further, the frequency of the AC power provided by these units may actually be so far off the standard 60 hertz power line frequency that some equipment may overheat or fail to function.

Stepped sine wave systems are a compromise between the highly efficient square wave inverters and the more expensive sine wave systems. Generally motors and transformer operated equipment will function with this type of power, but some radio interference may still be noticeable while operating on the batteries. Although some stepped sine wave UPS systems are synchronized to the incoming AC power mains, the switching time is still about the same as square wave systems, but with a reduced "glitch".

Sine wave power systems provide the cleanest power, closely phased to the power line. Additionally, the frequency of these supplies is usually held close to the standard 60 Hz, so even clocks maintain the correct time throughout a blackout. The power coming from these units is the closest you can get to "real" power coming out of the wall. If you have a chance to get a sine wave system cheap, do it.

Here's What I Bought

I decided that I wanted a synchronized sine wave unit because of the frequent power outages in New Hampshire where I live. *(We also expect more of them once the Seabrook Nuclear plant comes on line and triples our electric rates. -ed)* I wanted the quickest change over I could get to eliminate the switching transients. Since I am running two QX-10s, an FX-80, an MPS Hard disk system plus a modem, I chose a 300 watt model.

After looking over various advertisements and talking to a number of distributors, I ordered the PARA SYSTEMS Minuteman MM300SS UPS through Jalco Distributing. Besides fitting my needs, I chose this particular system because I could order it on my credit card for a 30 day evaluation period, the system comes with a one year warranty on parts and labor and Jalco gives a free one year subscription (or extension) to Epson World with each purchase.

The MM300SS system filters and suppresses line transients and switches over to the battery in about a millisecond when the line voltage drops to 99 volts or less, then back to the line when the voltage reaches 105. The battery is a sealed, 24 volt, maintenance free unit good for about 5 years and recharges in about 4 hours. With both my computers running, this system provides about 8 minutes of battery backup, plenty of time to close up shop when the lights go off.

If appearance counts for anything, this system is impressive. Power indicator lamps show the line power status and two bar-graph LED display the load on the system and remaining battery power.

I ordered my system at 4pm on October 13th and it was at my house by 3pm October 20th, faster than delivery of my Valdocs + III package from Valware, heh, heh. The batteries were fully charged on arrival. Installation and operating instructions consist of several sheets of paper stapled together. Shipping from Para Systems in Dallas, Texas to my home in New Hampshire was just under $20.

Installation is simple. Basically you just plug the UPS system into the wall, turn it on, and plug everything into it. Although it has two built-in outlets, I use a little four outlet extension drop from the UPS for convenience.

Bottom Line

The unit has worked flawlessly since I got it. Special features on the MM300SS are an audible alarm silencer (pressing the button resets the alarm until either the 2 minute low battery warning signal goes off) or the power is restored, a low voltage battery cutoff to prevent deep discharge of the battery, and LED indicators showing power load and remaining battery capacity.

I'm pleased with my system and am happy to report that Murphy's law does work. Haven't had an actual dropout while I've been on the computers since I bought the thing. The audible alarm goes off every time the lights blink though, giving me a lot of confidence in the system. I enjoy testing it in front of friends whenever they come over...I just jerk the cord out of the wall and keep on computing as if nothing had happened. A real ego trip.

There are a lot of UPS systems on the market, and you can find various comparisons of these units in other magazines, but after a lot of trudging around looking at boring hype, I feel very comfortable with the Minuteman MM300SS between my computer and the Public Service Company of New Hampshire. It's cheap insurance.

MS-DOS EXPRESS

THE FIVE MOST IMPORTANT DOS RESIDENT COMMANDS

Steve Hudgik
Nickelodeon Software

During the twenty years I've spent in school I've read a good many books, but out of all of that reading I can only really remember one from my seventh grade English class called "Cheaper By The Dozen," the story of Frank Gilbreth. He was one of the foremost industrial efficiency experts of the early 1900's.

One of his methods was to find the laziest worker in the mill, then study how that person worked. The idea was that the laziest worker would find the best way to get his work done with the least amount of effort. It must have worked because he became famous for his ability to increase productivity.

The same principle applies in learning (and remembering) computer systems. Find someone who must use a computer, but who can't remember his own name from one day to the next. That person will quickly find the minimum number of commands and easiest approaches for computer usage. That person is me.

Let's start by asking the question: What is a DOS resident command? The term "resident command" means that the command is available in your computer's memory at all times. A DOS resident command can be used anytime the A prompt is on the screen. You don't even need to have a disk in the disk drive to use one of these commands.

An example of a resident command in both CP/M and DOS is the directory command - DIR. You can enter DIR at any DOS prompt and the directory for the current disk drive will be displayed.

DISKCOPY is an example of a non-resident command. If you enter the word DISKCOPY at the DOS prompt, you must have the DISKCOPY.EXE program on a disk so the computer can find it. If the computer can't find it you'll get the error message "Bad command or file name."

What are some of the other resident commands? A short list includes DIR, DELETE, COPY, CTRL P, CTRL S and REN. (REN stands for RENAME). I look at the first five on this list as the most important, so we'll look at these today and save the rest along with other DOS features for later.

Throughout the following, I'll assume that you're logged onto the "A" disk drive and that the A prompt is on the screen.

DIR - This is the most frequently used DOS command, and is quite similar to the same CP/M command. DIR lists the contents of the A disk in a column on the screen. Next to each filename you'll see the size of the file plus the date and time that file was originally stored on a disk if you entered the correct date and time in your system before the file was saved. As with CP/M, you can list the contents of the B disk by typing DIR B:.

When you have more than 24 files on a disk, part of the list will scroll off the screen probably too fast for you to read. So, how are you going to see the files that are at the top of the list? DOS has several solutions.

Control - S - Temporarily stop the listing. Enter a CTRL-S by holding down the control key as you type the letter "s". The display will stop while you read at your own pace. Continue the listing by typing any convenient key. You can stop and start the listing in this manner until you've read the entire directory.

Print - copy of the directory. Type a CTRL-P before entering the DIR command to send everything to the printer. Once you've pushed CTRL P everything that appears on your screen will also be printed. (BE SURE YOUR PRINTER IS ON). Type CTRL-P again to stop printing.

List - a selected part of the directory. If you're interested in only files of a particular type or name, use wildcards and the DIR command to list only those. For example, to list all files with the extension "DOC", type:

```
A>DIR *.DOC
```

The asterisk tells the DIR command that you don't care what the filename is as long as the extension is ".DOC". You can also use an asterisk for the filename extension:

```
A>DIR FILENAME.*
```

This lists all of the files named "FILENAME" regardless of what the extension is. The listing might look like this. Notice that the dot between FILENAME and the extension is not printed. The number between the date and file extension is the size in bytes of the file:

```
FILENAME DOC 57608 09-10-86 12:14a
FILENAME TMP  1236 09-09-86 11:45p
FILENAME TXT 46008 08-17-85  2:23p
FILENAME $$$  5634 02-24-84  5:30p
```

The asterisk can also replace part of a filename with a wildcard. For example to find files that start with the three letters INV we would enter DIR INV*.* at the A prompt. The resulting list might look like this:

```
INVEN COM  26422  10-18-86  3:12a
INVTRYDAT 154320  7-05-85  11:15a
INVEN PGM    088  2-24-86  10:30p
```

Specify - the "wide" listing option. Follow the normal DIR command with a "/w":

A>DIR /W
A>DIR:/W.

Adding a "/w" to your request for a directory listing results in the filenames being listed in five columns. However, the file sizes, dates and times will not be shown. This arrangement uses less vertical space and about 210 files can be listed on the screen.

You can also add "/p" (the pause option) after the directory command. The "/p" tells DIR to stop the listing each time the screen becomes full. To see the next page of the directory just push any key.

DELETE and ERASE - These commands do exactly what they say; they remove files from the disk. (The ERASE command is the same function as CP/M's ERA command, but you have to type the whole word out. DELETE can be abbreviated to DEL.) All you need to do is tell these commands which file(s) to delete.

For example, if you want to erase a file called LETTER. DOC, enter ERASE LETTER.DOC. (Of course we're assuming the LETTER.DOC file is on the disk in the A drive. If it is on the disk in the B drive, type ERASE B:LETTER.DOC.)

Asterisks can also be used as wildcards with this command, just like with DIR. For example, entering DEL *.TMP erases ALL of the files with filename extensions of ".TMP". You can erase all of the letters you've written by entering DEL LETTER.*, or, if you want to erase everything on a disk, use two asterisks (DEL *.*).

COPY - This is the command to use when you want to copy a file from one disk to another. It is the MS-DOS equivalent of PIP. Like DIR and DEL, you can use an asterisk as a wildcard, but its use is more limited. Let's look at some examples to see the various ways you can use this command.

To copy a file with the name FILENAME.EXT from the disk in the A drive to the disk in the B drive enter:

A>COPY A:FILENAME.EXT B:FILENAME.EXT

This tells the COPY command to create a file on the B drive called FILENAME.EXT and then make the contents of that file "equal" to the file on the A drive called FILENAME.EXT. Notice that the order of arguments is reversed from that used in CP/M. This may take a little getting used to.

That's a lot of typing just to copy a file, so the COPY command provides a much shorter way to accomplish the same thing. If you are going to use the same filename for the copy of the file, then only specify the file to be copied and the disk drive it is to be copied to. For example, COPY FILENAME.EXT B: accomplishes the same thing as the previous example.

(Remember, we're logged onto the A disk drive, so we didn't need to include "A:" before FILENAME.EXT. The current disk drive is assumed if none is specified.)

I should also mention that you don't need to use an equal sign between the drive the file is being copied to and the name of the file to be copied as you do with CP/M; you can include one if you like, but it isn't necessary.

Asterisks may be used on the left side of the "equal" sign. When using an asterisk as a wildcard you generally need only specify the letter for the disk drive and the files being copied. Here's a couple of examples:

A>COPY *.DOC B:

This copies all of the document (.DOC) files from the disk in the A drive to the one in the B drive.

A>COPY INVEN.* B:

This line copies every INVEN file, regardless of what the filename extension is.

A>COPY *.* B: copies all of the files from the disk in the A drive to the disk in the B drive.

You can also make a copy of a file on the same disk the original file is on, if you use a different name for the copy. The command to do that would look like: COPY A:LETTER.DOC= A:TEMPORY.DOC, allowing you to experiment with changes without risking your original file.

CTRL-P and CTRL-S - These are the last two resident DOS commands for today. I've already discussed these in conjunction with the DIR command. Some people may not consider them true DOS commands, but they are memory resident and available at all DOS prompts - and I use them much more frequently than I do most other DOS commands.

With just these five basic commands you'll find working with DOS to be fairly easy. As experience increases you can start using some of the more powerful features available in DOS-land. In particular the COPY command has quite a few more functions than I've mentioned, but we'll have to leave them for discussion another time.

If you'd like to completely avoid the need to use DOS when dealing with files, there are several programs available that can put you out of your misery. Instead of the DOS A prompt these programs usually provide a series of menus to select the DOS functions, then automatically perform the appropriate DOS commands.

The best known of these programs is the "Norton Commander" (Peter Norton Computing - $56.00). However, if you shop around you'll find others that provide different features and cheaper prices. For example there's "Best Friend" (Elite Software - $84.95) and a Norton Commander clone called "The Commander" (Keyword Office Technologies - $49.95). I don't know how well any of these run on either the Titan board or a QX-16, so I'd recommend trying them before you buy.

Many of you will find the DOS world somewhat difficult to grasp, while others will find it duck soup. However, there's a lot of software that's available at low cost or free for MS-DOS machines, so it is worth the effort to learn about it, especially if you need to interface with the corporate world where MS-DOS software is the standard. Unfortunately that world will never know the pleasure of using a QX-10/16.

More Obscure Software

Robert H. Warner

I'm a dairy farmer who started my Epson experiment in 1984 with a QX-10 and Valdocs. All went well until my record keeping needs grew and a DOS program answered the bill. A Titan board was added and worked fine until graphics were needed as well as text. Then my wife went to graduate school and needed word processing. Since her papers were all long, a proofreader was necessary.

So I traded the QX-10 for an Equity I with a 20 meg hard disk, and Volkswriter 3. I must say it has been an excellent purchase. The only problem was I soon lost the computer to my wife! So now I have a QX-16, allowing DOS compatibility at a great price. Here's what I run on it:

Volkswriter 3 - With the word finder. Everything fits on a single 80 track disk.
Reflex - Data base manager.
VP Planner - The cursor keys and keypad are functional at the same time.
Champion Accounting Package
Dbase III Plus - Must have copy protection removed.
PC File III
Newroom - Better on 16 as you must reset to get out.
Personal Publisher
Keychart - Plotter program bundled with HI-80.
Automenu - Selection menu generator.
Printmaster - Creates graphic cards, banner, etc.
MS-DOS 3.0
PC-DOS 3.0

Q&A Lives on the QX-16

David L. Ricketts

I have a QX-16 and also the Q&A program on the hard disk. If it doesn't run, someone forgot to tell the computer.

All joking aside, I believe the reason your Q&A didn't run is that it was tested with the Q&A demo disk. I did that and it locked up the 16. I wouldn't have known it ran on the 16 after that except I bought the package for use on my Kaypro-16 and tried it on the QX-16, just in case the demo was written with some strange code and the regular version worked. It was and it did.

More on Q&A

Dean A. Sunderlin

Q&A, a new integrated artificial intelligence word processor and data base program works fine on the QX-16. The tutorial won't run, but have had no trouble with the program itself.

Q&A comes on six disks, disk one being the startup disk. Disks two through four can be copied to a single quad density QX-16 disk to avoid a lot of swapping around.

I have just gotten Q&A and am still learning to use it. What I have seen so far has impressed me. The spell checker is fast and seems to look at the phonetics of a word which really helps us bad spellers. It also catches double words that might be in a document. It's no what you see is what you get Valdocs, but that's another subject. The data base is easy to work with. From creating forms to entering and storing data, it is quite straight forward. The intelligent assistant make retrieving data easy as well.

Thanks for all your support for the QX-16 line of computers.

Yet More Obscure Software

Ed Ayres

I've got a few additions to make to Peter Goulet's list of MS-DOS software that runs on a QX-16. These are all the things which I have and use, some of them a lot, others rarely.

True Basic - My language of choice, easy to use yet powerful.
Sidekick - I find the Notepad especially valuable. The programs I write make extensive use of text files, saving on PRINT statements. With SideKick I can write, edit and save my text files even while the BASIC program is running! The editor is easy to use, about like Valdocs or WordStar.

The Twin - This is a 1-2-3 spreadsheet clone that has better graphics than the original Lotus 1-2-3. Next to True Basic, it is my favorite piece of software.

Norton Utilities
Golden Common Lisp
Turbo Prolog
Symphony - Only version 1.
MultiMate - Of course I use Valdocs for word processing.
Fontasy - A desktop publishing program. Very Good.
XLISP - A public domain version of LISP.
ESIE - An expert system shell.
DAC Easy - An accounting program.

There must be thousands of other programs that work well on the QX-16, but these are the ones I've tried so far. The only ones that **haven't worked** for me are Media Master and SuperKey. I've been told that ProKey works, but haven't tried it.

The QX-16 may have a reputation for being "incompatible" but from my own experience I think it is somewhat exaggerated. It has so many advantages over most other compatibles that it makes up for the rare occasions when some software doesn't work.

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From the Publisher

...A simple gift for the Holiday Season

Here it is, only the first week of November and it's already time for me to wish all of you a Merry Christmas. So here it is, Merry Christmas! It is a time of giving and sharing, and so, probably unlike any other computer magazine you've ever seen, I'm going to give you something absolutely non-computer for Christmas.

Perhaps I should start off by mentioning that the source of the gift I'm giving actually came to us a couple of years before the Revolutionary War when one Ann Lees and a few of her followers entered the country on a quest for religious freedom. To make a long story short, they got a taste of religious freedom American-style, for our country at the time was not ready for a theology advocating pacifism and celibacy promoted by a group of English emigrants from the commoner class.

Ann Lee (she had changed her name along the way) died a couple months after being dragged by her heels down three flights of stairs and behind a wagon for several miles over an icy road. Shortly thereafter her followers assembled in New Lebanon, New York and formed the first Shaker Commune as a means to withdraw from the society that persecuted them.

Throughout the early 1800's the Shaker Religion flourished and 17 or 18 communes were established with a peak population of about 6000. As a group, the Shakers were prolific inventors. Our clothes pins, rotary saw blades, flat brooms and even airtight wood stoves were invented by them. They were the first in America to commercially sell seeds and pharmaceuticals. Their cloth, shoes, baskets, buckets and furniture were all in very high demand because of the quality; people knew that when the Shakers made something, it was the best that was available. The Shakers believed in flawless perfection in everything they did and took the time to achieve it. They also ate very well, and their surviving journals and cookbooks describe hundreds of delicious "receipts". Although made from simple ingredients, the end result is always honest, wholesome and fit for a king. One of my pastimes is bread making, and so naturally when I ran across some of the old Shaker bread recipes, I had to try them.

It is a fact that today our flours and other ingredients are not the same as the Shakers used. They had their own mills for grinding flour and herds of the finest cattle and livestock to produce their dairy products. So it is no surprise that their recipes do not necessarily "work" with today's ingredients. Changes have to be made, hopefully not damaging the original quality or taste.

My gift to you this year is a simple recipe handed down from the Shakers of a hundred or more years ago that I've adapted. Please take time (maybe 3 or 4 hours on the first try) and spend it with your spouse or favorite honey to make a batch of Shaker Squash Biscuits, then share them with your family and friends during the Christmas holidays. The Shaker spirit of sharing and giving will visit you and your loved ones every time you do. God bless.

Shaker Squash Biscuits

After Eldress Bertha's Squash Biscuits

Canterbury Shaker Village

5 cups flour	5 tsp yeast
3/4 cup scalded milk	1/2 tsp salt
4 T melted butter	3/4 cup sugar
1-1/2 cups sifted squash	2 eggs

Peel and cut winter squash (butternut is fine) into chunks; rinse in cold water and boil until done. Drain well. Scald milk, then add butter and let melt. Combine milk and squash and blend at low speed just long enough to liquefy the squash. Add eggs and whirl until they are beaten in.

In a large bowl, stir together salt, sugar, yeast and 3 cups of flour. Add squash and egg mixture, knead well, adding remaining flour as you go, cover and let rise. Additional flour, perhaps several cups, may be required depending on the moistness of the squash used.

Punch down and divide into 32 equal-sized rolls; place in three 8 X 8 X 2 cake pans (glass or ceramic are best) greased with Crisco. Be sure to grease the top edges too. Cover and let rise again until the tops are about even with the pan edges. Cook at 375 degrees until golden brown, about 20 minutes. Brush the tops with melted butter while rolls cool on racks.

These keep well, but don't often last long. Delicious when zapped in a microwave oven for 15 seconds and served with butter or honey. Kids like them cold for a snack.

Notes:

1. The dough will be stickier than bread dough, but can be handled easily when dusted with flour.

2. All the rolls put in pans should be the same size or you'll end up with three pans of different size rolls, each taking their own time to rise and bake.

3. DON'T overcook! These rolls are soft, delicate, and moist; remove from the oven when the tops are brown, with ridges between them still yellow.

Enjoy this gift of the Shakers!

Adding Assembly Language Routines to RSI BASIC Programs

By Dan Oja

RSI BASIC is a powerful programming language that provides easy access to the most advanced features of the Epson QX-10 and QX-16 computer systems. However, like most interpreted languages, it is not particularly fast and there are some tasks that just cannot be performed at an acceptable speed from within BASIC.

A reasonable solution is to transfer the most time sensitive portions of the program into assembly language routines. There are many possible methods for adding your own assembly language routines to RSI BASIC programs. It is possible to include short routines as data statements within your program and then POKE the routine into memory at the correct location. This procedure, while workable for very short routines, proves slow and cumbersome for longer routines.

I recently developed a procedure which allows me to easily incorporate assembly language routines into RSI BASIC programs. This procedure works well for assembly routines of all sizes.

Test this Procedure - You'll need the following items in order to test this procedure:

1. Any word processor which can store text as a straight ASCII file.

2. The program ASM.COM which came on your CP/M system disk.

3. The RSI BASIC language (RGB.SYS).

Before you start, put ASM.COM and RSI BASIC (RGB.SYS) on the same data disk.

Creating the Source Code - Type the source code as listed below. Make sure it is entered exactly as it appears in the listing. Since we will be using ASM to assemble this program, the source code will use 8080 rather than Z80 op codes.

The origin of the program must be set to the address at which you wish to load the routine. In the sample program I set the origin to 0DEA8H or 57000. The normal top of memory under RSI BASIC is usually around 57350, so this starting location provides room for programs of up to 350 bytes in length.

To make the program listings easier to read, use the EQU directive to give names to the values which you will be using in your routine. For the sample program, we will be using BDOS (5H) to call the operating system, GDRIVER (27H) to load GDRIVER commands, and two specific GDRIVER commands: ABSXY (86H) which moves the cursor to a specific XY location, and VRECT which draws a rectangle on the screen. For additional GDRIVER op codes, refer to the Graphics Driver Manual by Rising Star Industries.

This sample routine uses the normal 8080 operation codes such as MVI which moves a given value immediately into a register, LXI which loads a 16 bit register pair with a 16 bit value, CALL which calls a routine at a specific address, and RET which returns from a routine. There are many good books which provide additional information on 8080 assembly language programming. I found Soul of CP/M by Mitchell Waite and Robert Lafore, Howard Sams & Co., Inc., to be extremely helpful for basic 8080 assembly language.

The complete source code for this sample assembly language routine is shown in listing 1. All text following a semicolon is a comment and will not be included in the final assembled code.

After you've entered the source, store it as an ASCII file under the name SAMPLE.ASM on your test disk containing ASM.COM and RGB.SYS. (The first part of the name could be any legal eight letter TPM name, but the extension must be ASM.) Leave your word processor and exit to the TPM operating system. Log onto the test disk.

Assembling the Routine - Type ASM SAMPLE and press RETURN to begin assembly. ASM will assemble the source code and produce two files: SAMPLE.HEX and SAMPLE.PRN. SAMPLE.HEX contains the hexadecimal translation of the 8080 codes from the source file. SAMPLE.PRN consists of a list of memory addresses, hexadecimal translations, and the original source code for the program. When ASM is finished assembling the routine it displays the following messages:

```
CP/M ASSEMBLER - VER 2.0
DECA
000H USE FACTOR
END OF ASSEMBLY
```

If any lines from your source code are displayed on the screen, it means that ASM found errors in your code. Go back to the editor and check your source code carefully against the program listing above to find the error.

ASM has stored the 8080 codes for our routine in the file called SAMPLE.HEX. If you examine this file (TYPE SAMPLE.HEX), you will see that it consists of the following lines:

```
:10DEA8000E270609CD05000E2706861
1400121C858
:10DEB80000CD05000E27068111640021
6400CD0500
:02DEC80000C98F
:0000000000
```

The first two digits in each line tell us the number of program bytes in this line in hexadecimal notation (10 in hexadecimal equals 16 in decimal). The next four digits tell us the address where this routine should be loaded.

The next two digits are always zeros, and the rest of the line consists of hexadecimal values for our routine followed by a two digit checksum. The first line of SAMPLE.HEX breaks down as follows:

16 bytes follow (10 hex = 16)
Address
Zeros Checksum
Program Bytes
:10 DEA8 00 0E 27 06 09 CD 05 00
0E 27 06 86 11 40 01 21 C8 58

Loading the Routine into Memory - We must now load the bytes of our program into the correct memory locations. We could enter these values in DATA statements by hand, but that can get extremely tiring for longer programs. To make things easy, we'll write a utility program to let BASIC load these values.

Type RGB and press RETURN to enter RSI BASIC. Enter the program shown in listing 2 and store it under the name HEXLOAD.BAS.

Run the HEXLOAD Program - The program will read the data from the SAMPLE.HEX file and poke the values into the correct memory locations. When finished, the program will display the last memory address (57034) used by the assembly language routine.

Storing the Routine as a Binary File - Type BSAVE "SAMPLE.BIN",57000,57034 to store the assembly routine in a file on the disk.

Using the Routine from an RSI BASIC Program - Listing 3 demonstrates how to use this routine from an RSI BASIC program:

Every time you do a CALL 57000, the assembly routine will clear the screen, move to 320,200 on the graphics screen, and draw a rectangle with a width and height of 100 pixels each.

Summary - The only real requirements for your BASIC program are: 1. CLEAR the necessary memory to be used by the routine 2. BLOAD the routine at the correct address 3. CALL the address of the routine when needed. I hope this procedure proves helpful to those of you who may have been struggling to devise some workable procedure for incorporating assembly language routines in your RSI BASIC programs. It has already been of tremendous help to me in my next programming project, a 3-D fantasy role playing dungeon game for the QX computers.

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Listing 1 - Demonstration Assembly Routine

```
;TO BE LOADED INTO RAM WITH HEXLOAD PROGRAM, SAVED AS
;A BINARY FILE, AND THEN CALLED FROM RSI BASIC
;
                ORG 0DEA8H              ;SET STARTING ADDRESS
;
;SET VALUES FOR COMMONLY USED PROCEDURES
;
BDOS            EQU 5H                  ;CALL TO OPERATING SYSTEM
GDRIVER         EQU 27H                 ;VALUE FOR GDRIVER CALL
ABSXY           EQU 86H                 ;GDRIVER COMMAND FOR LOCATE
RECT            EQU 81H                 ;GDRIVER COMMAND FOR RECTANGLE
CLRSCR          EQU 9H                  ;GDRIVER COMMAND TO CLEAR SCRN
;
;THIS IS START OF THE ACTUAL ROUTINE
;
;FIRST WE WILL CLEAR THE SCREEN
;
START           MVI   C,GDRIVER         ;LOAD C REGISTER W/GDRIVER
                MVI   B,CLRSCR          ;LOAD COMMAND INTO B REGISTER
                CALL  BDOS              ;DO IT!
;
;POSITION GRAPHICS CURSOR AT 320,200
;
                MVI   C,GDRIVER
                MVI   B,ABSXY           ;LOAD ABSXY COMMAND INTO B
                LXI   D,320             ;X LOCATION FOR ABSXY COMMAND
                LXI   H,200             ;Y VALUE FOR ABSXY
                CALL  BDOS              ;DO IT!
;
;DRAW RECTANGLE WITH WIDTH OF 100 AND HEIGHT OF 100
;
                MVI   C,GDRIVER
                MVI   B,VRECT
                LXI   D,100             ;WIDTH OF RECTANGLE (X)
                LXI   H,100             ;HEIGHT OF RECTANGLE (Y)
                CALL  BDOS              ;DRAW IT!
;
;RETURN TO BASIC
                RET
```

Listing 1 - The Hexload Program. This program copies data directly into memory from a hex file.

```
10 'HEXLOAD
20 'COPYRIGHT 1986 BY DAN OJA
30 CLEAR 5000,1,57000: 'MUST RESERVE SPACE
ABOVE 57000 FOR THE ROUTINE
40 OPEN #11,"I","SAMPLE.HEX":'OPEN THE HEX FILE
CONTAINING OUR ROUTINE
50 INPUT #11,LINE$:'GET A LINE FROM THE HEX FILE
60 IF MID$(LINE$,4,2) = "00" THEN CLOSE:PRINT "LAST
ADDRESS = ";POKEADDR:END
70 'NOW PROCESS THE LINE
80 ADDRESS$ = MID$(LINE$,4,4):'FIRST FOUR CHARAC-
TERS ARE DESTINATION ADDRESS
90 PAIRS$ = "&" + MID$(LINE$,2,2):'NEXT 2 CHARAC-
TERS ARE NUMBER OF 2 CHARACTER PAIRS IN THE
LINE
100 HEXVALS$ =
MID$(LINE$,10,VAL(PAIRS$)*2):'SEPARATE THE
STRING WHICH CONTAINS THE ACTUAL HEX CODES
110 ADD$ = "&" + ADDRESS$:POKEADDR = VAL(ADD$):
'FIND THE STARTING ADDRESS TO POKE THE HEX
CODES
120 FOR N = 1 TO LEN(HEXVALS$) STEP 2:'BEGIN
POKING THE CODES INTO RAM
130 DATA$ = MID$(HEXVALS$,N,2)
140  DATA$ = "&" + DATA$
150  POKE POKEADDR,VAL(DATA$):'POKE ONE CODE
160  POKEADDR = POKEADDR + 1
170 NEXT N
180 GOTO 50:'READ THE NEXT LINE
```

Listing 3 - A simple RSI BASIC program to call the language routine shown in listing 1.

```
10 'USING ASSEMBLER ROUTINE FROM RSI BASIC
20 CLS:CURSOR 0
30 CLEAR 5000,1,57000:'LEAVE RAM ABOVE 57000
FOR ASSEMBLER ROUTINE
40 BLOAD "SAMPLE.BIN",57000:'MUST TELL IT
WHERE TO LOAD ROUTINE
50 'NOW DO NORMAL RSI BASIC PROGRAM
60 'TO USE ROUTINE JUST CALL THE RIGHT AD-
DRESS
70 CALL 57000:'CALL START OF OUR ROUTINE
80 END
```


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The VALDOCS Chronicles

Lonny Brown, Editor

Est. 1986 *"We cared enough to wait for the very best"* Vol. 1, No. 3

VAL GOES ON-LINE

By Lonny J Brown

By lucky co-incidence, Editor Hansen's laudable account of how to get into the world of electronic telecommunicating through VALDOCS, (EW Vol 2 #4, Sept., '86) was in the mail at the same time that I finally decided to get a modem myself.

I was trying to scrape up two hundred bucks for an external, high speed smart set, when the logic (and the price!) of the Comrex CR-103 hit me. Thanks to liquidation, one forth the cost brings a unit designed to slip right into one of those five eager slots in my QX. So what if it's 300 baud.. I'll worry about high speed when I get into high volume. Besides, those orphan boards deserve homes inside our QX's, yearning to show off their In and Out Baskets (VALiantly, you might say). I set the article aside unread, and hopped to the phone.

None too soon, for prices were fluctuating, and one supply had already dried up. Snyderscope came through at 60 bucks plus postage for the updated version (for V+): (La Mesa, CA, 619 466-6277.) (They've got everything for first generation Epsons. No credit cards, but prompt service.) I was online in ten days.

As mentioned last month, there's a slight incompatibility between the Comrex CR-103 ("ComMunicator"), and any VALDOCS release after 1.x. The fix is a hardware modification (to the modem card, not your computer), simple for techno-twits, not recommended for the all-thumbs type (see EW, Vol.2, #5 Oct.'86). Snyderscope offers both fixed and unfixed modems, (with a ten dollar difference in price), plus a spec sheet on how to do the job.

Installation of the CR-103 is straightforward. Just be careful not to handle the exposed circuitry on the board. Comrex says choose any slot, but if the modification is installed, use only slot number one. Mine worked perfectly the first time. Don't forget to inform your phone company of the new equipment. The manual tells all.

VALDOCS' built-in Setup module not only has to know when you have a modem installed, but when you don't. I.e., it will not complete a boot-up if it's been told to look for a modem that's not really there. I know, I tried. Install first, then inform Setup.

Jim's article really would have sufficed, but there's also the Comrex manual, VALDOCS' own excellent HELP on-disk, and the VALDOCS users' instructions, to help get the new E-communicator up and running. Suddenly you realize all the potential under that MAIL key. It's a lot more than just addresses and labels.

VALDOCS will auto-dial from your address book, by name, choose telecommunication protocols, and manage remote file exchanges, all through those same old friendly menus. The modem came with a generic CP/M communications program (MODEM 103), but I never even loaded it.

My first few days on line have been exhilarating, if somewhat inflationary to the phone bill. I've been checking in on the various Epson user group bulletin boards around the country, and for a rural end-user of a "dinosaur" system, it's wonderful to stumble into a vast network of fellow QXer's and VALheads, a special electronic community, looking after its own.

Dedicated sysops tend all-night systems for the love of it. Public domain programs and utilities circulate as freely as rumors about RSI and Mr. R; unseen friends in the green screen commiserate about bugs and boards. It's a new world, and you're invited to join. Here's some tips gleaned from my early experiences going on-line:

Most BBSs use similar commands, accessible with a "?". Screen dump (CTRL-P) the command menu and pin it to your wall. You'll be jumping around the system in no time. You can read announcements, leave private or public messages, and sometimes "chat" with the sysop.

Down- or up-loading files and programs is accomplished by remotely dropping into you host's CP/M system, checking the directory ("DIR") and invoking the transfer utility XMODEM. (S = send, R = receive.) You must then tell your own machine when to commence the exchange. With VAL+III, sending, receiving, and interrupting transmissions are all accomplished with single HASCII keystrokes. The host BBS will tell you how long it will take a given file to

down-load, at your baud-rate. VAL does the same for uploading. This is where higher speed is economical. A ten minute transfer time is not uncommon. Unlike commercial online services, bulletin boards will allow a limited connect time (usually an hour or less), and keep you appraised of elapsed time.

Programs available from remote systems' hard disks are usually given file extensions that indicate their type, and prevent inadvertent activation. For example, rename "filename.TPM" to "filename.SYS" when you download it for your own uses. It won't run otherwise. Other extension translations: .CPM = .COM; .RSB = .BAS; .TXT = VAL, etc. An ".LBR" extension means its a "library" of (usually related) files, packed together for storage and transmission. You need a utility such as DELBR or NULU to open it up. Likewise, if the extension has a "Q" in the middle of it, use a program like USQ to "unsqeeze" it. Such utilities are available on most user group boards.

VAL also makes it easy to capture everything that passes over the screen during your real-time session: just hit STORE anytime to toggle on or off the capture feature. Onscreen, an "F" in the status line indicates a file is opened for capturing. "S" means it's temporarily stopped. VAL will give your captured session a number and leave it in your In Basket (on the data disk) until you choose to read, transfer, store, or delete it. More advanced features include delayed transmission, auto log-on and off, auto background answer, and auto receive mode. I'd say VAL + III is probably the most talented, comprehensive, and visually useful telecommunications program written.

Epson-related Remote Bulletin Board Systems - Here's a few computer numbers for some of the established Epson-related BBS's:

Data One Super Systems (Texas)
(512) 937-1302
Philadelphia EpsonNet
(215) 938-0334
Los Angeles Epson Users Group
(213) 398-2395
The Pegboard (Portland OR)
(503) 239-4032
Long Island (NY) Epson RCP/M
(516) 536-1546
Epson-Net Mid America (Kansas)
(913) 642-8479
HI-RES Windy City (Chicago)
(312) 394-5772
International Trading Co.
(213) 277-1396
Epson World (NH)
(603) 487-2501

The EW board supports up to 2400 baud, but humble old 300's are most welcome too! One file there is an updated list of Epson BBSs, nationwide. They're easy to find once you plug into the invisible network.

Networking Proves It's Worth

Upgrading my QX-10 for telecommunicating was not without its problems. The modem was up and running a few days when I realized that it had severely crippled my mouse! I tried toggling the mouse on, like it says in the book. No luck.

I manually tried every baud setting in SETUP, and kept disenabling Background Answer, (which would mysteriously enable itself between modules). The book says it must be disabled for mouse operation. I tried wiping out the CMOS RAM, by booting up an old VAL 1.9. I tried removing the modem board and mouse and starting from scratch. I even tried mouth to mouse resuscitation. Yuk.

Once again, that sinking feeling that only a rural user of an unsupported system knows, followed by the stoic search for help. In the end, my most productive move was to reach out electronically. Within 48 hours I found a bug fix waiting on our EW BBS from a more experienced VAL MAILman. I'll pass it on.

As it turns out, the VAL + III manual is incorrect. On pg. 37 are instructions to toggle from modem mode to mouse mode (GRPH SHIFT + MAIL), and in effect switch the baud rate automatically to 1200.

An "x" in the status line is said to mean that mouse mode is activated, but my VALDRAW program works only when the "x" is off, and, when I lie to the SETUP system about my modem: All I had to do was tell it I had a Hayes. The system doesn't even care if the baud rate remains at 300, but for some reason it has to think it's a Hayes modem. A manageable bug, once discovered.

You can even write a CPL (Defkey) control to fix it. (Our thanks to Dennis Etchells for this fix.) However, much to my chagrin, at this writing, my mouse is still very ill in LOGO LABEL, and no amount of fussing with SET-UP will revive it. If anyone has any ideas about the modem bug that bit the mouse, get in touch!

Emotional Issues

By Lonny Brown

Now that I've come out publicly as a VALDOCS fan, I'm getting mail from many less enchanted customers with no where else to express their frustration about an infamous product that came too late (or, in some cases not at all), from a poorly managed company, for a discontinued machine. Understandable distress. Here's my advice, for what it's worth.

Don't invest any more money in VALDOCS if: speed is of the essence and you want new integrated applications, such as data base programs, thesaurus, outliner, or project management software.

DO get VAL + III if you are heavy into word processing, graphics, or E-mail and want to get the most from your machine. VAL may not have realized its promised destiny in the marketplace, but its performance on my desk makes it a winner!

Review

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By Lonny J. Brown

For all their complexity and power, computers, even the most sophisticated, accomplish their tasks through the micro-electronic alternation and patterning of only two basic functions: On or Off. One or zero. Yes or no.

Five thousand years ago, Chinese sages recognized that nature itself (called the Tao) behaves in a similar binary fashion, and wrote an interactive "program" based on this knowledge, called the I CHING; The Book of Change. In a somewhat historic accomplishment, this ancient psycho-spiritual self-reflection aid, possibly the oldest book in the world, has been very effectively transposed into the modern technological idiom of personal computing by the folks at Software Country. And it's fascinating.

The Chinese called the polar-opposite forces that "make the world go 'round" Yin and Yang, reflected in natural life as feminine and masculine, cold and heat, moon and sun, east and west, intuition and intellect, and every other possible set of dualities in creation.

Perceiving the patterns in which these two complimentary opposites tend to interact leads to understanding and insight. The Book of Change reveals these universal dynamics with timeless grace, and makes them personal and practical.

There is good reason for the durability of the I CHING as a source of guidance spanning the centuries and continents. It is a unique repository of natural wisdom that is universally applicable. Anyone who has used it, once or a thousand times, will tell you it is always uncannily relevant, almost eerily accurate. Which is why it is called an Oracle, a device for "divining", or mirroring, the unique synchronistic confluence of all possible variables, in any given situation, at any given moment, and advising according to the ways of nature.

It's to the credit of Software Country that they have succeeded in marrying the I CHING to high-tech without adulterating the original beauty of the text, or its inherent wisdom. The event is made more significant by the fact that use of the I CHING has been severely repressed in modern communist China.

Purists will at first be skeptical that using a computerized random number generator to call up the book's message-for-the-moment, instead of the traditional, tactile ritual of casting coins, would destroy the essential, interactive relationship that makes the I CHING experience so intensely personal.

But, as the manual well explains, the critical medium for the message received is the mind of the receiver. The act of pressing the space bar six times can be just as meditative, and, considering the universal forces that come into play in determining the ultimate timing of your strokes, (as well as what's going on in your computer's chips at that moment), equally as cosmic. And thoughtfully, the program supports any method, traditional or innovative, of arriving at the hexagrams and their changing lines.

The program's designers, including an I CHING scholar, have in fact, taken great care to create an exact electronic analog to the coin-drop method: Software-engineer David Badley tells us that the computer is actually performing the equivalent of dropping three coins, "head-or-tails", nearly a million times per second. (EPSON's speedy clock places the QX among the fastest I CHING's in town!).

Hitting the space bar shows each "coin" as it was, yin or yang, at that moment, and marks the changing lines. Even the original numerical values and intermediate steps for generating the hexagram's two constituent trigrams are duplicated exactly by the computer. In all, great care has been taken to insure fidelity to the original method.

Whether you use coins, yarrow sticks, or a computer to consult the I CHING, the idea is to use the transition time to frame your question with care, and prepare to be most receptive to the answer.

Turning your QX-10 or QX-16 into an electronic oracle is as easy as booting and running any program. The on-screen progression of choices is so simple that documentation is not needed, although the package comes with a well-written and highly informative manual, (complete with quotes from Shakespeare, Einstein, C.G.Yung and others).

The program allows you to type in a question or simply ask it silently. It then instructs you in the creation of your unique answer by freezing the random generator six times, with the space bar.

This produces a large "hexagram" (a C1hinese pictograph) on screen, which symbolizes your particular predicament at the moment. There are 64 hexagrams, but your reading is further individualized through the generation of sub-permutations, called "changing lines", and a possible second hexagram, reflecting the fundamental Taoist principle that all things are in a state of constant flux.

After drawing your hexagram, and showing which lines are changing, the I CHING displays several appropriate paragraphs, including The Judgment, The Image, and The Commentary, which describe and interpret your reading. The text eloquently appeals to the best in all of us, discussing universal truths, and giving specific, if sometimes symbolic, advice. The translation, (a modern distillation of some dozen existing versions, by Les Crane), is accessible, inspiring, and, (improving on the old), non-sexist.

Frequently referring to the user in the second person, the guidance offered will be as useful as your receptivity to it. The manual discusses the cultivation of one's intuitive powers, which psychologists now associate with the non-dominant right hemisphere of the

brain. People using the I CHING for the first time invariably express unexpected surprise at its relevance.

You may save the oracle's response, along with your question, as a file on disk, and/or print-out a hard copy, making an on-going "process journal" easy to keep and review. You may also choose to view any of the hexagrams by name or number, or leaf through the book at random.

An added bonus on Software Country's disk is a very useful module for systematic decision making. It prompts you to examine the pros and cons of options or choices of action, and then reveals a decision based on your own values. Logical and consistent, it's like having a coolly objective analyst helping you clarify your thoughts, beliefs, and values about the problem at hand. It is designed to reactivate the rational side of the brain, nicely complimenting the intuitive/ interpretive mode of the oracle consultation, thereby providing a psychologically integrated, holistic experience.

Good software usually earns praise by being either instructive, useful, or fun. This program is all of these and more: it's profound.

Given the clarity of its design, its comprehensive documentation, and unusually low price, The Book of Change is highly recommended for the home-computerist who wants to reflect, grow, and explore both worlds of human existence: the inner and the outer.

(Editor's note. I asked Lonny to query the I CHING about the future of Epson World Magazine. You wouldn't have gotten a straighter answer about overload from my wife Pat. The abridged response follows.)

November 6, 1986
Response to the question:

"CAN WE PLEASE HAVE A GENERAL FORECAST FOR EPSON WORLD MAGAZINE?"

"...If you marshall the resources available to you now, great success will follow.

At this time, creative energy flows into you from the very nucleus of the universe. You must take care, however, to assure that your actions in the exercise of this power are for the greater good. . .

If you direct these powers toward worthwhile goals, you will experience unparalleled success. Your present actions will have a dramatic impact upon all those around you. You will see your strength embracing your associates, mobilizing all to greater efforts.

...These circumstances demand great care in the planning and execution of your affairs, because now you set forces into motion. It is as though everything that you do here creates a rippling effect, into the space around you, into the time ahead of you. Therefore, it is imperative that you use your careful and best judgment.

There is great danger here in going too far. The superior person is aware of his limits. There is a limit to success without peril. Be cautioned that reaching beyond what is realistically possible can spell disaster. Arrogance will create the occasion for repentance.

. . . You are faced now with having to accept the reality that your situation is becoming overwhelming. All of the major concerns in your life are simultaneously reaching a boiling point. When you become overloaded in this fashion, it is imperative that you remain calm and find a shelter from which it is possible to assess your position with a detached perspective.

. . . When all your circuits are approaching overload in this manner, you must take immediate action. There are only so many fires that can be extinguished at the same time. The only real danger here is to try to force, unnaturally, solutions to the myriad problems clamoring for your attention at the same time."

--- The Book of Changes

All this sounds pertinent, but I haven't had the guts to repeat the question. You see, the way this thing works, Lonny's answer was valid for him when he did it; but now is a different time and the news may have changed by now. The advice is sound, but even so, I still wonder about it. Draw your own conclusions! --- jmh

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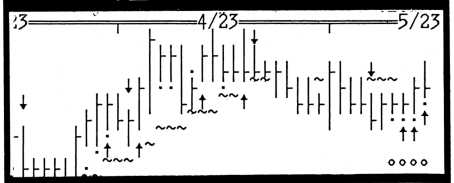

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Review

THE GAME OF BUSINESS
Multiplayer business simulation game
OS: TPM in the Valdocs Environment
$49.95

Telepress Software Publishing
7756 Isis Avenue
Los Angeles, CA 90045
213-216-7375

By Larry Hufty

THE GAME OF BUSINESS is a game of management skill in which up to six players try their hand at starting and running a small manufacturing company. It is designed to be run from the VALDOCS environment, utilizing many of the advanced features of VALDOCS and TPM.

Each player is the owner of a different type of company, be it manufacturing computers, televisions, shoes, chairs, records, or wine. Although each company produces a unique product, they all have an even chance at success or doom. Along with trying to run the business successfully, you must, as an enterprising entrepreneur also play the stock market. You can buy stock in your own company, and even in your competitions stock.

THE GAME OF BUSINESS is an intense game, one that cannot be taken lightly. To the unsuspecting sole who thinks of a game as a joystick ride, THE GAME OF BUSINESS will surprise you. This game is serious. It involves potent strategic planning, shrewd market analysis, and a lot of business savvy.

All players start the game with $6000 which is on deposit with a broker. This money is used to purchase stock in the stock market. On the strength of this cash as collateral, the bank loans each company $5000. As in real life, the banker will come along unexpectedly and demand payments in the amount of $500 per quarter, and of course, you will pay interest on your loan. In a bad quarter, you pay dearly for that loan, as the interest rate fluctuates with the market conditions. And like your friendly banker down the street, he doesn't treat each loan the same. Your may be the owner of Mango Computer Co. and have to pay the bank 14% on your loan, while your buddy at Brown Bag Vineyards is only paying 10%. I say that's not fair, but then again, neither is life, at least not in my experience.

Once each player has picked a company, and been given the loan by the bank, he must determine overhead costs. Because overhead is an unavoidable part of every business' reality it has been included in the formula that determines each company's operating cost.

In THE GAME OF BUSINESS, the company's overhead is determined by how much raw material and inventory is stored for the quarter.

The more raw material that is stockpiled, and inventory generated, the larger the size of the warehouse that a company must lease to store them. This calculation is built in and hidden, so you don't readily see the effect. This creates an incentive to keep inventory and raw material to a minimum. Companies are charged for each unit that must be stored.

So now each player has a company, and must now make several decisions. As the owner you must decide how many employees you are going to hire, how many days a week they will work, how much raw material you wish to have on hand, and lastly, how much money you wish to spend on advertising. And of course, as any enterprising person, you start your first dabble in the stock market.

The game moves a quarter at a time. At any time that you have extended yourself and your company, the bank will gladly loan you more money.

Then all of a sudden, the computer groans at you, and flashing across the screen is the message that you are "Bankrupt". Actually, you have no choice, the bank is going to loan you the money. As you move along, from quarter to quarter, there are several nice screens to assist you in your decision. By pressing the RETRIEVE key, you can have a Quarterly Report. This screen shows the results and parameters of the previous quarter's strategy. It is a historic screen to help you with future planning.

Press the MENU key and you have a Strategy screen. This is where each company's strategic parameters for the current quarter are entered, so you will spend most of your time here.

The SCHED key presents you with the Competition Screen. This screen shows eight of the most important results of the previous quarter's strategy for all active companies. This includes how money was spent, how many items were sold, how much raw material is still on hand, etc.

Lastly, the INDEX key takes you to the Stock Market screen. At this screen you may buy and sell the stock of any active company including your own.

Before you take any action in buying and selling, it would be helpful to see a graph of the company, showing the stocks' performance, or maybe its asset in relation to trends for that company's market. Well, just hit the DRAW key while in the Stock Market screen, and you are presented with three graphs.

Since this is not a game that you will normally complete in a single session, you can exit at any time, saving each company's performance.

The GAME OF BUSINESS is not a simple game, nor is it fast moving. If you enjoy pitting yourself against both the computer and others, or enjoy dabbling in the business world without using real money, this game will give hours of satisfaction. It is well designed and is very true to life in mimicking the exciting and complex world of business.

The DXCC Color Board

A new Auxiliary Color Display Adapter for QX-10/16 Computers from the authors of TPM and RSI BASIC.

DXCC Computing Company
PO Box 189
Hopewell, NJ 08525
(609) 466-2092
Price: $249

By EW Staff

The DXCC Color Board is the latest product of Roger Amidon, author of the TPM series of operating systems, and forms the foundation for a series of new and innovative software products planned for the QX series of computers.

Based on the TMS 9918A video processor with 64 kbytes of on-board display memory, the Color Board is a sparsely populated option card that is plugged into any slot of your computer. A short video cable (supplied) connects the card to a composite color or black and white monitor, video modulator or the camera input of a VCR. Unless specifically activated by software supplied with the card, it does not affect the operation of the computer system and may be permanently left in place. The system resolution is 256 by 192 pixels (color dots) with 16 colors, the same as most hi-res video games on the market today.

Software supplied with the Color Board includes DXPAINT, a stripped-down version of ValPaint that is surprisingly uncluttered, easy to use and comes complete with its own help files, accessed - you guessed it - by the HELP key. Operable by either keyboard cursor controls or with Mouse Systems or LogiTek mice, DXPAINT is fun to use. Several games, written in either MBASIC and RSI BASIC are supplied with the

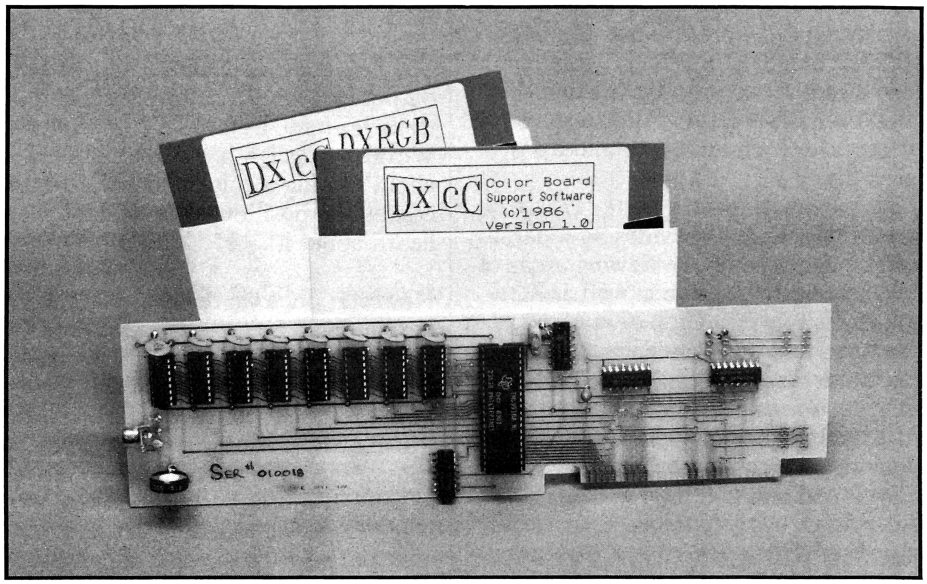

Photo 1 - The DXCC Color Board. It plugs into any slot in your QX computer.

Color Board and the RSI BASIC patch disk.

The patch disk ($50) adds Color Board support to RSI BASIC. These enhancements are easily installed; just run the patch program with a copy of RSI BASIC (Version 2.50 or later) in the right drive and DXRGB.SYS (RSI BASIC with full Color Board support) is automatically created. No muss, no fuss. If you don't have a copy of RSI BASIC already, DXCC has copies available off the shelf at $149 each.

The display itself, when viewed on a professional monitor, is crisp and clean with absolutely no jitter. Output color tint from the Color Board is user-adjustable by a control near the back of the card.

Documentation is in the form of stapled 8-1/2 by 11 inch sheets. Unfortunately, the RSI BASIC manual update was not formatted or punched so it would fit in the manual. Unlike most computer products on the market today, the Color Board comes complete with schematics and the source code of the driver software supplied, allowing (and encouraging) third party software development.

RSI BASIC Enhancements

DXRGB addresses the Color Board as screens 4 and 5, leaving standard RSI BASIC screens 1 through 3 untouched, and still fully compatible with all existing RSI BASIC programs. The Color Board supports 16 colors (compared to eight when using Epson high resolution color configuration), and the foreground and background (each addressed separately) can be set to any of these. Additionally, a color border can be drawn around the backdrop edges.

Most of the important graphics commands available for use with the standard RSI BASIC graphics screens are supported on the Color Board. These include BDRAW, CIRCLE, CLS, COLOR, DRAW and DRAWTO, FILL, HOME, LOCATE, MOVE and MOVETO, POINT, PRINT and PRINT@, PSET, PRESET, RECTANGLE, SCREEN, TURN and TURNTO and XPOINT and YPOINT. Some restrictions apply to a

few of these commands, but for the most part they are fully functional.

Noticeably absent from the above list are commands dealing with fonts; FONT, GFONT and VPRINT cannot be used. Additionally, the CURSOR command although supported, is essentially a "NOP" since there is no visible cursor on the Color Board. The SCRN READ and SCRN WRITE commands are also not supported, making it difficult for BASIC programs to store (or recover) screen images to and from disk files.

The Color Board provides 34 separate SPRITES. Sprites are viewing areas of the screen that can be moved around the screen, even on top of one another, and independently adjusted for color and pattern. Nearly half of the 11 page addendum for the RSI BASIC enhancements is devoted to a technical discussion on how they are developed and controlled.

Computer Business Presentations and the DXPAINT Connection

Although limited in resolution compared to ValPaint, DXPAINT and the Color Board are the cheapest solution for providing color graphics on QX computers. Unlike color graphics with the high resolution Epson color kit, output from the Color Board can be directly taped on any common VCR, making computer generated business presentations a practical reality at last!

Several exciting possibilities exist. DXPAINT is compatible with all the standard ".PIC" files generated by ValPaint and DRAW. What actually happens is that these files are "munched" when they are loaded into the Color Board screen memory so they conform to the lower display resolution of standard television receivers connected to the Color Board.

These images, be they business graphics or fancy doodles, can be colored and doctored by DXPAINT, then saved to disk and eventually run as a part of a slide show or in combination with an RSI BASIC program which can add special effects, motion and perhaps even some sound effects. Whatever the final product, all this, including the "graphics in motion" if you've worked that out using RSI BASIC, can be taped with a standard VCR for presentation nearly anywhere, all without lugging your favorite computer around.

Application

The fact that the DXCC Color Board output can drive a color TV set is relatively ho-hum. In fact we at Epson World were slightly less than excited about moving a color set in next to the computing position when we first heard about it.

However, once we realized that the output could be directly taped, and looking at DXPAINT's total file compatibility with ValPaint and DRAW, plus the support rendered through RSI BASIC, this product has to be considered an important development to the QX owner/business person. High quality computer generated business and sales presentations can now be produced right off the same graphs and spreadsheet data bases presently used by Valdocs.

Of course there are a few little hang-ups, noticeably in the lettering area. Lettering coming in as a part of ValPaint or DRAW will probably suffer more than anything else. DXCC should be severely chastised about the head and shoulders for not providing at least a subset of VPRINT to provide better lettering, but with this one restriction, we now have a good way of extracting color and other exciting displays from our computer system for remote display and reproduction.

And the modest price makes this product affordable to anyone who would like to see quality color on the QX. Aside from business applications, the Color Board also provides the hardware capability for some truly exciting graphics (perhaps even games) to be run directly on the QX computer. No more mushy green displays or high-latency control aberations.

Coupled with the 32 sprites offered by the video processor chip, a good C compiler and a trifling of assembly code, it should be no problem for some enterprising soul to produce high performance versions of Pak-Person (we're not sexist here at EW, don't you know) and other popular animated games. And you can believe that when these games or applications are available, you'll read all about them here in EW first!

Future Development

It's dangerous to talk about things down the road, but one of the interesting developments being looked into at DXCC includes real-time picture transmission and retrieval via standard modem link-ups, resulting in a low-cost (albeit low resolution) form of facsimile.

This type of project makes sense when you realize that Roger and his crew are all radio amateurs and understand what DXCC actually stands for. It's ham radio lingo for a select group who belong to the DX (stands for "long distance") Century Club...members of this group have confirmed contacts with hams in a hundred or more countries, a real accomplishment. Do you suppose this system can be programmed for slow-scan TV and the images sent around the world by wireless? It almost boggles the mind. Roger ain't talking about it...yet.

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WORD PERFECT 4.1 ON EPSON COMPUTERS

Probably one of the most powerful word processors on the market today, WordPerfect 4.1 is a winner on both the QX-16 and Equity Series Computers.

By Robin Perry

Word Perfect is undoubtedly the most powerful word processing program I have ever used. Twelve years ago I used what was then the state of the art for dedicated word processor-computers, the IBM Text Writer. This was followed by the SAVIN 750, then the OLIVETTI 501 and the last of the dedicated machines, the XEROX 750. Interestingly these were in the price range of $11,000 at a time when the dollar was worth at least 50% more than in 1986.

Word processing is easily the most popular use of personal computers followed by the spreadsheet then data base programs. The main advantage of the personal computer over the dedicated machine is the variety of uses. The computer being limited only by the available software. However, until recently the word processing software packages couldn't begin to match the dedicated word processor computers for features.

The "integrated" or multipurpose package usually containing a Word Processing program, a spreadsheet, a mini-data base sometimes called a "cardfile" and a communications feature which became popular about three years ago, but has since fallen on hard times. As personal computer users become more and more sophisticated, they demanded additional features within each module and were willing to pay for sophistication. As more features were added to integrated programs they became cumbersome and often needed more RAM than was available.

Integrated packages are being replaced with single purpose programs with more features and they now rival the dedicated features of years ago. WORD STAR, MULTIMATE and WORD PERFECT are the three leading word processing programs with Word Star having sold the most because of being first on the mass market. However, Word Perfect is the leading word processing program.

When EPSON elected to follow IBM's lead and make the EQUITY it was an immediate success primarily because EPSON makes superior products -- as far as quality of manufacture is concerned. But in copying IBM, EPSON elected to copy the keyboard, monitor resolution, and box design of the CPU locking in the worst features in order to clone the IBM PC. More important, they sold the remaining inventory of QX-10's, and the three new machines, the QX-16, the HD QX-16 and the QX-16 Color. For what it's worth, I think they "shot themselves in the foot" since the QX-16's are superior to almost all other PC's in the low end of the market -- the personal and small business user.

The QX-16 has the HASCI keyboard which has not been equaled. The RAM is an adequate 512K, and the truly high-resolution screen of 640 X 400 pixels guarantees a clean, clear, sharp character on the bit-mapped EPSON monitor. The two 768K floppy disk drives lessen the dependence on shuffling floppies.

The QX-16's and a QX-10 with a Titan board run WORD PERFECT 4.1 well with no loss of features and because of the HASCI keyboard with seventeen function keys the user has many options for the extra seven keys.

WORD PERFECT requires MS-DOS 2.0 or later, 256K RAM with either two floppy disk drives or one floppy and a hard disk. These requirements are easily fulfilled by either the QX-10 with a Titan board or any of the QX-16's.

Essentially, WORD PERFECT is "command" structured as opposed to "menu" driven. Menus are slower since the user has to make choices instead of making a command decision -- and there are many of them. The ten function keys, F1-F10 are used for forty commands. Ten using just the function keys. Ten more using SHIFT with each of the ten function keys; ten more with ALT and the ten function keys; and ten more with CTRL and the ten function keys.

There are a few pseudo menus for specific options. As an example, all commands pertaining to PRINT FORMAT use the F7 key and all PAGE FORMAT options use the F8 key, each with SHIFT, ALT and CTRL. A double-command key such as CTRL F8 brings up selections for font, pitch, justification and style of underlining to name a few. Since there are almost 100 commands to memorize WP has an instant access code to what each key command does what. Simply press F3, the HELP key, and press the first letter of your problem or need. F3 followed by say "P" brings up a list of sixteen features beginning with the letter "P". Any letter of the alphabet brings up a short explanation of the related keys. You don't need to clear the screen or lose your place in order to look up a help.

WORD PERFECT has the largest SPELL CHECKER of any package at this writing -- 115,000 words plus room for a dictionary of your own words not found in the spell checker or too specific for a general vocabulary. Also handy for the pro writer is the automatic word count feature on the same key. As the SPELL CHECKER searches through your document, it automatically counts the words. The feature can be used without the spell checker.

The THESAURUS is one of those features I thought relatively unnecessary -- I doubted I'd find a real use. But using it I was amazed at the *power.* (The Thesaurus suggested seventeen alternatives. Force, might, potency, puissance, strength, energy, stamina, vigor, authority, command control, domination, prerogative, capacity, faculty, potential, skill, and omnipotence.)

WP uses a split-screen horizontally to show your imbedded commands. Text is above the line and the cursor shows your position both in the text and in the code position in the lower half of the screen. You can delete, add to or simply edit the codes and see the result in your text.

Another feature for the professional writer is the ability to have two documents in RAM at the same time. This means that the SWITCH key, SHIFT F3, switches you from Doc 1 to Doc 2 back and forth -- and while in either document you can edit with all commands or copy blocks from one to the other; delete, move within documents or whatever and until restored they reside in RAM. Each document recalled from a directory to RAM is automatically backed up or backed up every so many minutes -- your choice.

You can undelete up to three of the last deletes and restore them; regardless of size, they're held in a buffer until your next delete.

Making columns out of bulk text is a snap. Perfect for the incipient would-be newsletter publisher. Text can be justified and formed in serpentine or

page by page columns from two to five. Editing columns on screen is easy -- WYSIWYG.

Directories have nine controls speeding up the writer's work. For a quick LOOK at a filed document without calling it to the RAM, cursor to the file, press the numeral (6) and it's on screen. Touch the space bar and it's gone. Copy to another directory or disk (8), rename (3), delete (2), or print (4) directly from the index. Providing, of course, you've filed your document with the codes you want for printing. You can find a word in any document file by selecting (9). The files where this word or phrase appears will be outlined. Also from the index or files key (5) is the ability to bring files into Word Perfect from other formats providing it is already in DIF or ASCII or DCA.

Word Perfect has a Convert program to bring files from WordStar, Multimate or almost any other format to Word Perfect. I brought my VALDOCS files across easier than I had thought. I refiled my VALDOCS (CP/M) indexed documents into ASCII Text with CTRL Q and using RWCPM converted them from CP/M to MS-DOS. I'd say about five minutes per document without going into a stripping program.

Incidentally, file size is unlimited, or at least to the extent of your disk capacity -- 768K in the case of the QX-16 without the hard disk.

The SEARCH program is blisteringly fast. I especially like the fact that you can search for hidden codes. You can use spaces or any punctuation mark in a search request. WP will global search and replace or confirm.

For those who need to type a single label or envelopes there is a "Type-through" feature that turns your computer/printer into a typewriter. Couple this feature with the DRAW capability and you have a forms program. The drawing has some twelve symbols that can be drawn in straight lines vertically or horizontally including a corner symbol. Nice for presentation covers.

There is a simple MATH feature for making reports with columns of figures and text. Simply tab and align by decimal point at any point inside a document.

One of the most important of all features is the powerful SORT feature. A five-key system that will sort by LINE, PARAGRAPH or PAGE, or any other variable. You can sort on screen or in a file on a disk. No program or record size limit. Ascending or descending. Alpha or numeric. Up to nine key words. Reverse key numbering for irregular fields. I find this program to be so useful as to make a Dbase program out of Word Perfect. The instructions are just a little difficult to learn for a beginner, but once you have the idea of what makes a Record and a Field and learn to sort by Word, Line, Paragraph, Ascending or Descending, Alpha or Numeric and Merge, you have a data base program without leaving Word Perfect. Obviously, the sort works with the MERGE program and MACROS.

Footnotes, Endnotes, Superscript and Subscript, Headers and Footers, Table of Contents outline, and Indexing are some of the more sophisticated features for the professional writer. I especially liked the "pickup numbering" of files. I store and work on documents in chapters. Each has its own header but uses the common page number when linked together for printing as a single document.

Coming from the dedicated word processing computers I've always disliked the word processing programs for personal computers that brought longer words to the next line without hyphenation. It just didn't look like what an editor expects to see. Word Perfect has a Hyphenation feature that some reviewers dislike. I think that's because they try to use it before the document is finished editing. This causes the automatic reformat feature to stall while it asks you to hyphenate. Best to turn it off but on again just before you file the document. Hyphenation should be the last editing chore before printing.

The Page Format and Print features are complete and powerful. You must select the Font, Pitch, Number of Copies, and a number of other considerations before you store the file. The program assumes nothing. You make the choices -- except for defaults. Word Perfect recognizes some 245 printers.

Word Perfect is far and away the fastest word processing program around. The tutorial is simple to read

and follow. There are a few "assumptions" in the Lessons that should be spelled out for the beginner but you don't need to buy a separate book to learn how to use the program.

Word Perfect publishes Math Plan for those of you who need a spreadsheet program. MP uses the same commands so there's nothing to learn except how to organize and create formulas, but even those are very straight forward. The documentation is excellent and the support superior. They have an 800 number where you give the serial number of your copy and the help is instantaneous and the lines aren't clogged. A specialist or supervisor answers those questions of a more technical nature. I couldn't be more pleased. The price is $495 but purchased through some of the mail order firms will save you quite a bit.

(Ed Note - As a matter of interest, Epson World is edited using Word Perfect 4.1 and (of all things) the Norton Editor, made and marketed for programming types. We like Word Perfect's spelling checker and consider it one of the best available on the market today.

Our biggest complaint with Word Perfect is the somewhat random layout of the function keys like help on F3 (everyone else has standardized on F1), PRINT on shift-F7 with EXIT on plain F7. Can't tell you how many times I've had to back out of save to get a listing.

Finally, a generalized comment about word processing in MS-DOS: for the most part, I've not found a keyboard with either the tactile quality or layout convenience of our humble QX computers. The Epson Equity has only traces of the superb keyboards of old.

Author Robin Perry is a prolific writer and photographer of international standing and reputation.

His Epson experience began on a QX-10 and migrated to the QX-16 almost as soon as it became available. He is president of the Epson Salts user group and has formed the first Word Perfect user group in the country. He lives in a beautiful home built by himself a couple years ago next to a river filled with swans which at times make the river banks best left to them.)

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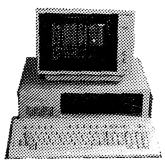

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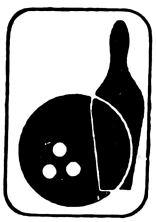

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The New Tax Laws and Your Home Business

The 1987 Tax Law changes a lot things for the small business owner. Read this article before the end of the year - it may save you money!

By Steve Hudgik

The new year is nearly upon us, and with the new year comes tax reform. Lower tax rates. Fewer deductions. Tighter rules on the deductibility of expenses and changes in how you might want to deduct the cost of a new computer. If you have a small business that you're running out of your home, then there are a lot of tax changes you need to be aware of. Like individual taxpayers, small-business owners will find both positives and negatives in the 1986 Tax Reform Act. For example, if you're planning on buying another computer, you might want to make that purchase before the end of the year.

Buy your new computer in 1986

There are two big incentives for making major purchases this year instead of waiting until sometime in 1987; the deductibility of sales tax and the lower tax rates next year.

Starting in 1987 sales tax will no longer be deductible. If you'll be needing another computer, or any other costly item, then purchase it in 1986 to boost this last-time sales tax deduction. A 5% sales tax on a $2000 purchase will cost you $100. Since tax rates for 1986 range up to 50%, you could get up to $50 back from Uncle Sam. Making the same purchase in 1987 will still cost you $100 in sales tax, but, with sales tax no longer deductible, none of that comes back.

Starting in 1988, there will be two basic tax rates; 15% and 28%. In addition, higher income people will pay a surtax that increases their top rate to 33%. In 1987 we'll be going through a transition year with five tax brackets ranging from 11 to 38. 5 percent. These rates are decreased from what we have in 1986, making deductions more valuable in 1986. Looking at a $2000 computer purchase, a person in the top tax bracket will get $1000 back (50% tax bracket) in 1986. Waiting until 1987 reduces that tax savings to $770 (38. 5% tax bracket). The net result is that waiting until 1987 to buy a computer could cost you an additional $280, if the effect of paying sales tax is included.

You should also be aware the computers are treated in somewhat of a special manner under current law, and this will continue under the new law. You don't have to use your computer exclusively for business in order to write it off. If you use your computer for business purposes 55 percent of the time, you can deduct 55 percent of the cost of the computer. However, the Deficit Reduction Act of 1984 has placed significant restrictions on deductions for computers purchased after June 18, 1984 that are used for business purposes less than 50 percent of the time.

To be able to take full advantage of the possible deduction, you must use your computer for business purposes more than 50 percent of the time. If your computer isn't used 100% for business, then I'd recommend that you keep a log of your computer use. While this is not required by tax law, having a log will be a substantial benefit should you need to prove the business use of your computer.

Expensing

Notice that in the example of a computer purchase I assumed that the entire purchase price of the computer is expensed in 1986. People who run small businesses can take an immediate tax deduction instead depreciating the equipment over several years. This is called expensing.

In 1986 you can expense up to $5000 in major purchases. In the past I would have advised taking a closer look at this, because expensing a computer would have prevented you from getting the investment tax credit (ITC) on that computer. However, in the new tax law the ITC has been repealed retroactively to the beginning of 1986, making expensing more attractive. (Note: In 1987 the amount that can be expensed will increase to $10,000).

New Depreciation Rules

You can not use expensing to avoid the caps on auto depreciation. In fact, if your business is going to need a new car or truck, there is an extra incentive to purchase it this year. Autos purchased before January first can be depreciated over three years.

Under the new law, what is effectively a six year depreciation period must be used. However, the longer depreciation period is partially offset by a faster write-off in the initial years. The net result of this is that with the new law you will be able to recover 52 percent of the cost in the first two years. Currently you can recover 63 percent in the first two years.

Another factor to be aware of, especially if you're buying a more costly car, is that the caps on the amount of depreciation you can recover in any one year will be decreased under the new law. The current caps are $3,200 in the first year and $4,800 in each year after that. If you buy a car after January first, the cap will be $2,560 in the first year, $4,100 in the second, $2,450 in the third and $1,475 in each year after that.

Income Considerations

We've been looking at the expense side of your business. The same incentives that make purchases in 1986 attractive, also make putting off income until 1987 work to your advantage. In 1986 your taxes on that income could be as high as 50%. In 1987 the most you'll pay is 38.5%. So, if you can delay any of your income, possibly by delaying the mailing of your invoices, it may be to your advantage.

Your Home Office

It's always been tough to claim a deduction for a home office and in 1987 there will be even more limits put on home offices. For example, the current law allows you to take a deduction for a home office up to the total amount of the gross income resulting from your home business.

This means that if your home business had $10,000 in sales for 1986, and your expenses were $9,500, you could deduct up to $10,000 for your home office. Starting in 1987 the home office deduction will be limited to the amount of gross income minus all other business expenses. The result is that, under the same circumstances, the $10,000 limit in 1986 is reduced to $500 in 1987. In this example, any home office expenses over $500 will be disallowed. You can, however, carry those disallowed expenses forward and use them to offset income in future years.

The net result of the new tax law is that a home office can no longer be used to create or increase a loss from a business.

While we're on the subject, a discussion of the methods and rules used by the IRS to determine if your home office is deductible might be of interest to you.

Three Tests for Home Offices

There are basically three tests your home office must pass in order to be deductible. You can expect all three of these to be strictly enforced in 1987. Claims for a home office as a deduction often will trigger an IRS audit because very few people can pass all three of these tests. If you plan to claim a home office, be sure you meet all three tests and avoid embarrassment.

The first test is the "exclusive use rule." It states that the area of your home you are claiming as a deduction must be used **EXCLUSIVELY** for your business. When they say exclusively, the IRS means the area must be used 100% for business purposes.

I've read about a salesman who worked out of his home and thus had a room set aside as a home office. The room, containing a desk, a chair, filing cabinets, a bookcase and a telephone, was not used for any other purpose. However, the IRS disallowed his claim based on his using part of the room for personal storage - the bookcase held books that were not business related. He was allowed to deduct only the space his desk and files took up, a much smaller deduction than he had originally claimed.

The next rule requires that the area be used on a regular basis for business purposes. If you don't use the business area in your home every day (for business, of course) you should keep a log that records the dates and times you use your home office. This log can then be used to prove your home office is used on a regular basis.

The third test is that your home office must be your principal place of business. If you are employed by an outside company, and you run a separate business from your home, you can meet this test. If, however, you use your home office to do work you've brought home from your regular job, then your home office is not deductible. The only way it would be deductible under these circumstances is if your company required you to keep a home office and this requirement is in writing.

Hobby or Business?

For those of us who run part time businesses, the new laws will make it more difficult to prevent that business from being classified as a hobby. By definition, any business venture that is not engaged in making a profit is a hobby.

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Under the old law you only needed to make a profit for two out of five years in order to be classified as a business. With the new law you'll need to make a profit for three out of every five years to maintain your status as a business. Why is this important?

For a business, all justifiable expenses may be deducted. For a hobby, on the other hand, business deductions are limited to the amount of the hobby's gross income. Thus, a loss from an activity that is considered as a hobby can not be used to offset income from other areas, while the loss from a business can offset other income. In addition, if your business is considered by the IRS to be a hobby, deductions for expenses would have to be included as itemized miscellaneous deductions. This means that they will be deductible only to the extent that they exceed 2% of your adjusted gross income.

Odds and Ends

Finally, here are a few other odds and ends that you may want to take note of.

If your business activity includes travel or entertaining clients, keep in mind that under the new law only 80% of the cost of business meals (including meals during travel) and entertainment can be deducted. Plus, the meal or entertainment must be directly related with your business. The IRS has tried to tighten the rules in this area in the past, and starting in 1987 you can expect them to be very strict in their interpretation of business meals and entertainment. However, there are still some deductions left in this area. For example, certain traditional recreational expenses for employees, paid by the employer (such as a year-end holiday party), are still fully deductible.

One benefit of the new laws is that self employed people will be able to deduct 25% of their health insurance premiums. There was no equivalent deduction with the old tax law.

We've heard a lot about interest expense no longer being deductible. This change, however, only applies to consumer interest charges. Interest on business loans will still be deductible as a business expense, so you can feel comfortable about getting a loan to buy that new computer in 1986.

If you're thinking about incorporating, you may want to consider doing it as an "S" corporation. As an "S" corporation your company will retain most of the legal benefits of a corporation, but the corporation's profits will be taxed at your personal tax rate. This puts a cap of 28% on your taxes (33% if you're in the highest income bracket) compared to a top corporate tax rate of 46 percent.

There's a lot more to the new tax laws than we are able to cover here. We've touched the main topics that'll affect a home business and tried to make you aware of the changes that'll effect what you do between now and the end of the year.

However, there are many other aspects of the new tax laws and other factors specific to your situation that you'll want to consider. For example, you may not want to deduct depreciation of your home as part of your home offices expenses, or you may need to depreciate your computer purchase instead of expensing it. Talk to a competent tax accountant if you have any questions concerning the implications of the new tax laws on your business strategy. I think you'll find that the advice you'll get will be well worth the cost.

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BARCHARTS IN BASIC FOR THE HX-20

We invite you portable users to submit your "portable" discoveries. If we have enough input on a regular basis, we'll develop a portable column.

By Cliff Eckenboy

By current estimates, some twenty percent or more of the Epson-computer-user community is clicking and whirring away on the little HX-20 powerhouse. And (I take delight in pointing out) while the few remaining QX's are being sold door to door on the heels of the Avon lady, the unpretentious notebook computer is, ironically, still in production! Truckers are using them; realtors are using them; medical labs are using them; college students are using them; and you and I are using them.

We use it to write letters, keep notes, do math calculations, sort data, and write tunes. We lug it to class, on trains and planes, and back and forth to the office. Our colleagues at work are impressed with its remarkable capabilities: its memory partitioning, allowing multiple resident programs; its handy micro-cassette storage (some 50 kilobytes); its unique (and infinitely useful) on-board printer. Its positive keyboard touch (tap, tap, tap) and travel rival the best, expensive desktop machines; while its dynamic RAM far outstrips all other portable contenders with up to fifty hours of continuous duty per charge!

Like me, however, you no doubt are appalled (nay, fighting mad!) at the lack of serious, exploitive software support for this not-so-little leaguer. Clearly, we are largely on our own. All the more reason, then, to share our resource experience through Epson World.

For an ice breaker, I have begun with a BASIC program that will produce quite a serviceable (if pint sized) BarChart from keyboard data input (see the example). The program is approximately 2.8k bytes long (including explanatory REM statements) and makes effective use of some of the HX-20's graphic capabilities.

I have combined the best features of several different public-domain programs, and then modified and customized them to suit the HX-20. One of my modifications was to add a graphic linear "scale" across the top and bottom of the chart.

I arbitrarily chose "tenths" as the most universally useful scale, but lines 1050, 1140, 1160 and 1170 can be changed to suit other desired units -- fourths, for instance, yielding calendar "quarters". It is best, incidentally, to enter at least one upper value that is divisible by ten (either an actual datum or a bogus item, i.e., SCA,100) to make the chart more diagrammatically readable.

Because the bars print horizontally as the microprinter paper advances line by line, a great many data items may be entered -- a nice bonus. (Vertical bar charts are necessarily limited by screen width).

Before printing the BarChart, the program prints a table of the user-entered data and politely asks for item-by-item corrections. After any necessary editing, the full BarChart is promptly printed on the on-board microprinter -- ready for inclusion in your next report.

A larger (50-character width) version makes effective use of a full-size, external printer. If you are interested in the program modifications, send an SAS envelope with your request.

So, portable fans,

Send these: the clever,
  Unsung tips to me
I lift my pen
  Beside the desktop lamp.

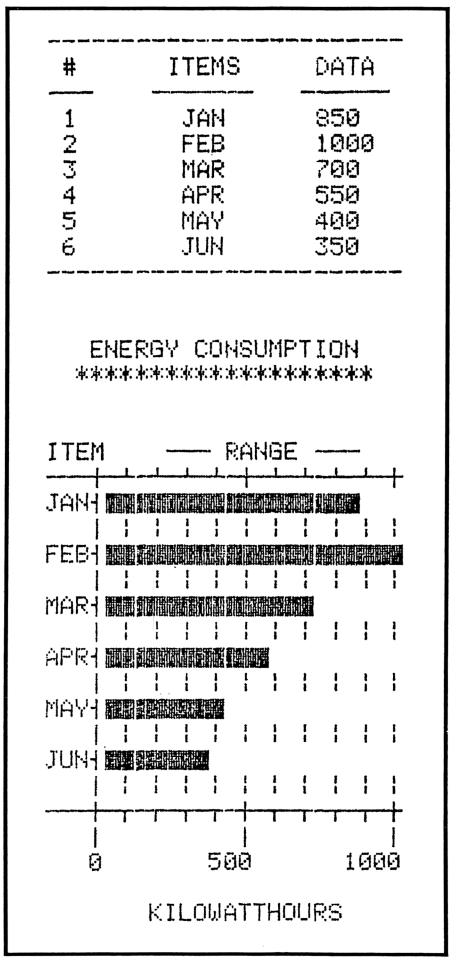

Figure 1 - A sample output from the HX-20 bar chart program.

Cliff Eckenboy is an early-retired electrical engineer with an avid interest in portable computers and an obsessive interest in classical music.

You Can Help!

Send us your nifty portable computer tip, tricks and ideas and we'll share them with your fellow computerists. You'll win because we'll give you a free disk of the month for every tip we print, and your neighbors will win because of your experience. A Win-Win!

```
100 REM ***************
110 REM ***SAVED AT:"BARCHART.01" PLOTTING PROGRAM
120 REM ***************
130 PRINT " *BarChart Program*"
140 PRINT "    for the HX-20"
150 PRINT "  Computer/Printer"
160 SOUND 10,4:SOUND 0,1:SOUND 10,2:SOUND 20,6
170 FOR T=1 TO 2000: NEXT T
180 X$="------------------------"
190 M=100
200 M2=20  'SETS GRAPHIC CHARACTER WIDTH OF CHART
210 L=0
220 DIM I$(M),D(M)
230 CLS
240 PRINT "Enter the Title"
250 PRINT "of the Chart";
260 INPUT T$
270 PRINT
280 PRINT "Enter the 'Range'"
290 PRINT "Description: ie-"
300 PRINT "'Hours,%, etc.'";
310 INPUT R$
320 PRINT "Enter the Items"
330 PRINT "two by two, in the"
340 PRINT "form: DATA,VALUE..."
350 FOR T=1 TO 1000: NEXT T   'TIMING LOOP
360 PRINT "End with:( 0,0 )"
370 PRINT "(max # of char= 3,4)"
380 FOR I=1 TO M
390   D(I)=L
400   INPUT I$(I),D(I)
410   IF D(I)=L THEN 430
420 NEXT I
430 I1=I-1
440 PRINT "Shall I Print"
450 PRINT "the DATA Items"
460 PRINT "in a Table"
470 PRINT "(Y or N)";
480 INPUT A$
490 IF A$="Y" THEN GOSUB 600    'PRINT DATA
500 GOSUB 880      'DETERMINE SCALE
510 GOSUB 970      'PRINT CHART
520 REM ***************
530 REM           PROGRAM TERMINATION POINT
540 REM ***************
550 PRINT
560 PRINT "PROCESSING COMPLETE"
570 SOUND 10,16:SOUND 20,10
580 SOUND 10,2:SOUND 20,4
590 END
600 REM ***************
610 REM   PRINT DATA
620 REM ***************
630 PRINT
640 LPRINT X$
650 LPRINT " #       ITEMS      DATA"
660 LPRINT "---    --------   -------"
670 FOR I=1 TO I1
680   LPRINT I;TAB(9);I$(I);TAB(17);D(I)
690 NEXT I
700 LPRINT X$
710 PRINT "Do you want to"
720 PRINT "Correct the DATA"
730 PRINT "  (Y or N)";
740 A$=""
750 INPUT A$
760 IF A$<>"Y" THEN 860
770 PRINT "Enter Item Number"
780 PRINT "to change";
790 N=0
800 INPUT N
810 IF N=0 THEN 710
820 PRINT "Enter correct"
830 PRINT "DATA here:";
840 INPUT I$(N),D(N)
850 GOTO 710
860 GOTO 440
870 REM ***************
880 REM         DETERMINE SCALING
890 REM ***************
900 FOR I=1 TO I1
910   IF D(I)>D9 THEN D9=D(I)
920 NEXT I
930 S1=M2/D9
940 IF S1>1 THEN S1=INT(S1)
950 RETURN
960 REM ***************
970 REM    PRINT CHART
980 REM ***************
990 LPRINT:LPRINT
1000 P=12-(LEN(T$)/2)    'TITLE CENTERING
1010 LPRINT TAB(P);T$
1020 LPRINT"  ********************"
1030 LPRINT:LPRINT
1040 LPRINT "ITEM      ---- RANGE ----"
1050 LPRINT "----+----+----+----+----+----+----+----+----+----+" 'DRAW TOP LINE TENTHS SCALE
1060 FOR I = 1 TO I1
1070   LPRINT I$(I);TAB(3);"|";TAB(4);
1080   S2=S1*D(I)
1090   IF S2=0 THEN 1130
1100   FOR I2=1 TO S2
1110     LPRINT "■";  'GRAPHIC CHARACTER FORMING HORIZ. BARS
1120   NEXT I2
1130   LPRINT
1140 LPRINT "    |  |  |  |  |  |  |  |  |  |  |"
1150 NEXT I
1160 LPRINT "----+----+----+----+----+----+----+----+----+----+" 'DRAW BOTTOM LINE TENTHS SCALE
1170 LPRINT "    |         |         |"
1180 MV=INT(D9/2)
1190 MP=12-(LEN(STR$(MV))/2)   'MIDDLE VALUE CENTERING
1200 RP=13-(LEN(R$)/2)         'RANGE CENTERING
1210 IF INT(D9)<=10 THEN 1270
1220 IF INT(D9)>=11 AND INT(D9)<=20 THEN 1280
1230 IF LEN(STR$(INT(D9)))=4 THEN 1260
1240 IF LEN(STR$(INT(D9)))=5 THEN 1290
1250 LPRINT "   0";TAB(MP);MV;TAB(21);INT(D9):GOTO 1300
1260 LPRINT "   0";TAB(MP);MV;TAB(20);INT(D9):GOTO 1300
1270 LPRINT "   0         5        10":GOTO 1300
1280 LPRINT "   0         10       20":GOTO 1300
1290 LPRINT "   0";TAB(MP);MV;TAB(19);INT(D9)
1300 LPRINT TAB(RP);R$:LPRINT
1310 RETURN
```

Listing 1 - The HX-20 Bargraph program written in MBASIC program can be modified for any computer-printer combination.

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The Dead Horse Ratt

By Nan McCarthy

Boy, oh boy, that **spell checker** is a big hit. The folks out in the lab have spent entire days sitting at the computer duplicating disks. I know we could get the disks duplicated professionally, but why? This way we keep control, and we can be sure no one is stealing our stuff. Besides, doing it in-house is sort of like getting it done for nothing. No, folks, it's not that we're not in it for the money. We're in it to make this a better world for you. As I told our staff last week, "This year we're going to put the profits back in the business."

By the way, did you see our ad for the spell checker? We ran it in a couple of major mags--well, maybe they weren't that well-known, but the advertising rates were good. You couldn't miss the ad, though. "**Get Bitten**" was the headline. We thought it was pretty cute. Underneath the headline was a photo of our very own Alligator Computer smiling its toothy smile, and, of course, our phone number was included. Great ad. Couldn't have done better if I'd thought of it myself.

One of our plans is to start our own magazine. It's always best to keep everything in the family. Control is the name of the game. Besides, I hear that magazines are an excellent way to raise money when the cash ceases to flow. We've already copyrighted the name for our first magazine---**The Gator Gazette**, a system-specific magazine covering everyone's favorite computer. Look for our first issue real soon now.

But enough, already. I know what you're all waiting for. You want to know all about our new--and our first--peripheral. (Can you say peripheral?) We have just released the **DHC RATT**, and you heard it here first. This long-awaited state-of-the-art piece of equipment is designed with you in mind. It's for all you folks who keep your computer room less than tidy (and you know who you are). Does your mouse get lost in the mess? Do you have to go digging through piles of paper and root around tracing wires, hoping one will lead to that ever-elusive mouse?

Fret no more. The RATT has come to the rescue. The RATT measures a generous 6" long by 3" wide and is 1" high. It's a real handful, and our technical staff likes its manly heft (women like it, too). This is truly a "mouse" you can get your hands on. (One of our human factors engineers suggested we put the biting feature from our spell checker on the RATT, too. We decided to drop the idea at the last minute, but if sales slow down, I figure we can sell the feature as an upgrade.

The RATT has another helpful feature, too. Maybe your office is so cluttered that bigger isn't enough. Maybe you're saying to yourself, "I wouldn't be able to find my RATT even if it were the size of an 18-wheeler." We understand that you don't all keep your lives as tidy as file cabinets (and perhaps your file cabinet is in random order, as well), so we've added a second feature to guarantee that you can find your RATT every time or your money back. Our RATT has day-glo pink eyes and tail. And if that's not enough, the eyes and tail **glow in the dark**, so you'll never lose your RATT again. Of course, you can put your RATT on **LAYAWAY**. Our operators are standing by to take your orders.

Several people have asked me why we are branching out with all these new products when the staple of our product line (the GATOR PROCESSOR Word-Processing System) still does **Strange Things**. Let me assure you that our highly trained staff of engineers is working on the problem. You know how sometimes you'll be typing along and you get a WHOOPS! and everything goes haywire? Maybe sometimes you press a key, and it's a little like pulling the pin on a hand grenade (you know--when the computer blows up). Then there are what we call bombs--when for no good reason the computer **nukes** your disk.

Our marketing department refers to these features as the kamikaze effect. Perhaps if we could figure out why these things happen, we could turn it into some sort of negative reinforcement routine that would ultimately make this a better world in which to live.

Anyway, bear with us, and if you find grenades or bombs in your software, be sure to call our customer hotline and give us all the dirt. Our customer service reps will be glad to assist you (unless they're out at the beach or taking some head time--happy employees are good employees). We can all work together to make this a better world.

In case you're wondering, we finally moved into our plushly appointed suite of offices. The carpeting is in, and everyone pitched in last Saturday and helped us move. It was a great day for teamwork and the American way. Our employees are the greatest. In fact, I think a couple of the programmers like our new office so much that they've moved in permanently. The cleaning lady found one of them asleep under his work station the other night. That's what we want here at DHC--a staff that truly believes in what we're doing and stands behind us all the way.

We're all getting ready for a big first here at DH Computer. It's our first computer show. We've got a dynamite booth, and I'm just dying to tell you about it, but then it won't be a surprise. Take my word for it, it's a beauty--and it cost a mint, too. If you're at the show, don't miss it. You'll want to stop by anyway and meet the folks and get absolutely free, no purchase necessary, our DH paperweight, each a magnificent work of art, signed and numbered by the artist. See you at the show!

(Ed note - Any similarities between DHC and any real computer company, past or present, is strictly coincidental.)

User Report...

DATE: 01/15/86
SUBJ: New Courier PROM

US Robotics has just released PROM 243, an upgraded chip for the Courier, which corrects those irritating little glitches sometimes encountered in 2400 bps ops with that modem, particularly when using alternate long distance networks. The new PROM works fine with VMAIL. Dip switch settings remain the same as before.

Get yours free by calling USR (800-342-5877)--ask for Tech Dept (either Henry Senk or Grant Killey). Tell them you would like a PROM 243 chip on a swap basis. They will give you a RMA. You install it after receipt and send old one back. A simple job to install so long as you observe usual precautions.

Be sure to ask them how to install if you do not know how to open the Courier, or call RSI/FSSN, East RBBS at 703-620-5418 for HOW2PROM.ASC on Drive A2: for more guidance.

Installation will result in product code 243 being returned when ATI0 query made (see your manual on how to do this). Product codes 240 through 242 can be found on Couriers sold to date.

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DATE: 11/07/86
SUBJ: Spellcheck hangup

At work, we have two QX-10s with 10M ComFilers, and one of them has a 2-M Semi-Disk (all bought at my instance, so all troubles are on my head!). Problem: under V+III, when my secretary tries to spellcheck a document, she gets a badly hung program, leading to Error #16. The cursor won't move, she can't invoke MENU, etc., unless she does a warm boot and then erases the file she was trying to spellcheck. After the first disaster, which lost her a two-page document, she STOREd and RETRIEVED before trying spellcheck--but the same results.

Bottom line: spellcheck won't work on theose machines. The only difference between them and the one I am using at home at this moment is that they have the newer, Brother keyboard. Any light you can shed will be appreciated by six people in my office, five of whom think I am an ass for purchasing Epson/ RSI. Please help me prove them wrong!

DATE: 11/07/86
SUBJ: Spellcheck hangup

I haven't run across this problem myself and have a 248K dictionary which I developed during the beta testing period. I asked Greg Stevenson, the programmer who did Editor, for any light he could shed. His reply is located on A4› as SPELLBUG.TQT. (Ed Note: See VIII Spell Bug in this issue.) I can only echo his advice about STORING a document recently edited BEFORE doing any further machinations with it. This applies to any word processing program, so far as I am concerned.

DATE: 11/07/86
SUBJ: Error 84

Three times this week in the V+II editor I've encountered word processing error 84....couldn't UNDO out, lost time and unstored text. What does this error mean? (Can't find it in any manual.) Why does it occur? Any known way to back out of it? Is it less likely to occur in V+III? Thanks!

DATE: 11/07/86
SUBJ: Error 84

Error 84 is a catch-all for an unknown error. It can be recovered from sometimes by deleting bad area in the doc, providing one can get the doc back up on the CRT. If not, delete the EDITCUREn.VAL where n=the view in which you were working (usually 0). Error 84 usually comes from too much editing before storing a doc. It is best to draft and edit in DRAFT mode, then put in the bells and whistles ONE time in the full EDIT mode. V+III seems to avoid that error and I urge you to use it vice earlier versions.

DATE: 10/23/86
SUBJ: Borland's Turbo Lightning

Borland's Turbo Lightning runs well on the QX-16. It is compatible with SK, 123, and WS. Only glitch is the bell does not sound, but that is no loss.

Using Lightning's H format permits placing the large dictionary in memory and also on drive A.

Finnegan's Flea Market

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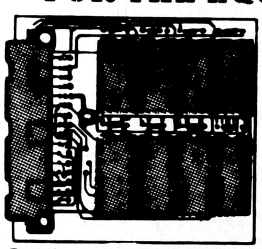

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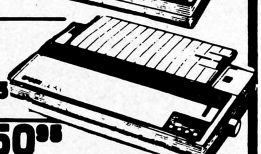

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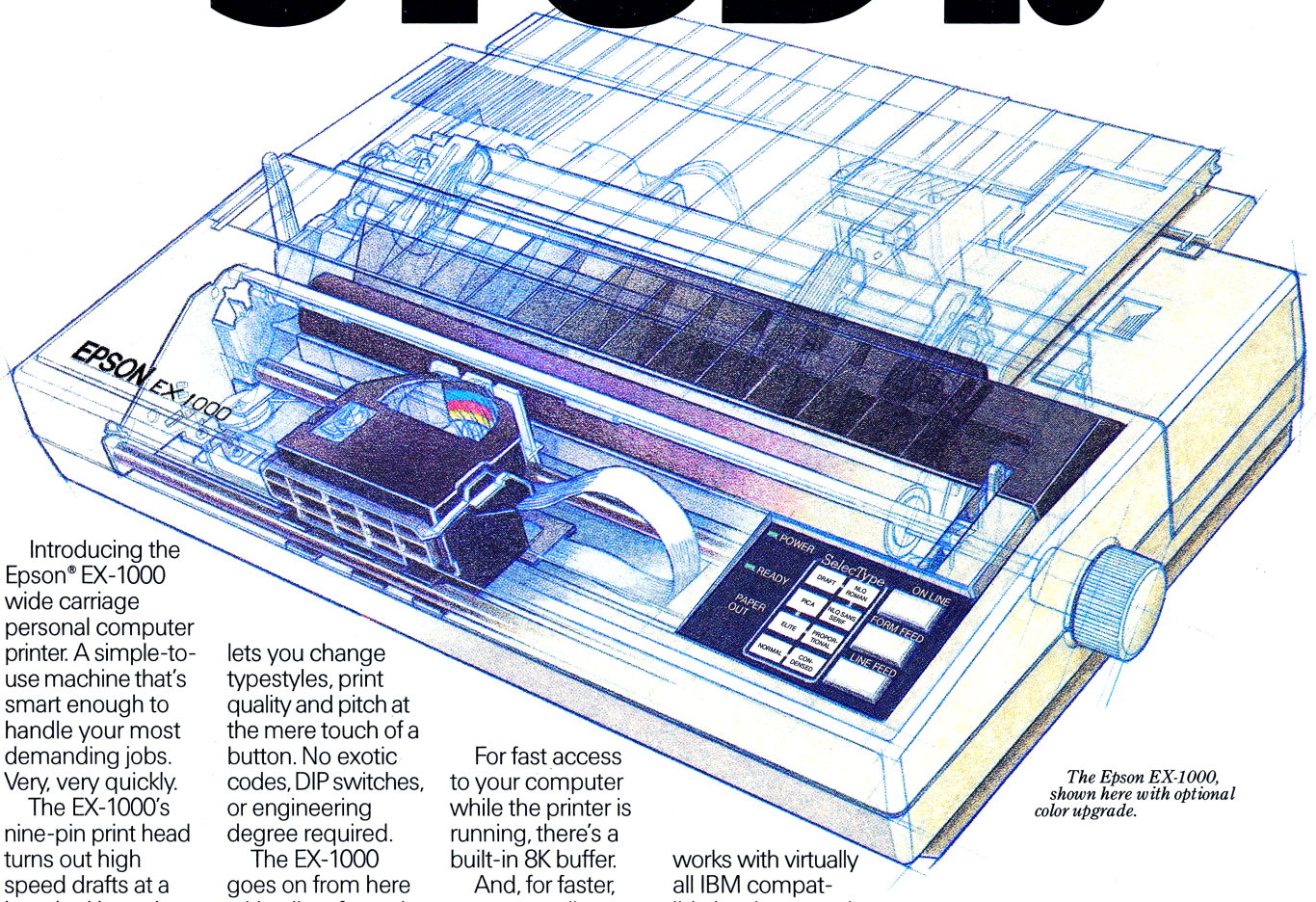

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